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A WEEKLY SOUTHERN INDUSTRIAL RAILROAD AND FINANCIAL NEWSPAPER.

RUSSIA AND AMERICA AS FUEL RIVALS.

[London Petroleum Review.]

No industry in the world has greater capacity for springing surprises on the world than that of petroleum, and what has recently happened in Texas may just as readily occur in Russia, and with vast quantities of fuel oil thrown on their hands the producers would find themselves in a very awkward dilemma, while the shareholders would experience a striking shrinkage of their dividends. The Russian industry appears to be concerned too much with the present; there is no preparation for possibilities, and existing facilities are not sufficiently elastic to be able to cope with abnormal conditions. They may surely take a very profitable lesson from the manner in which the vast and sudden increments to the oil production have been dealt with in America. In less than a year such arrangements have been made and such facilities have been provided that cargoes of oil are now leaving Port Arthur for distribution to various central markets. With an energy and an organizing effort which we fear could not have been initiated in Russia, the first steps are being taken which augur well for the future of liquid fuel, and a fine stroke has been made for the capture of the chief European markets, where liquid fuel will undoubtedly soon be one of the necessities of modern industrial and commercial life. The only future we can forecast is one in which Texas oil will figure very prominently, if not alone. Then, perhaps, when this has been accomplished, Russia will awake to a loss which will be as irretrievable as momentous. We would wish that enterprise and energy were more dominant notes in the policy of the great Eastern producers, but it would seem that nature has been waiting for Russia to take her opportunity of solving the liquid-fuel problem, and at last has turned to America as her only salvation.

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VOL. XL. No. 20

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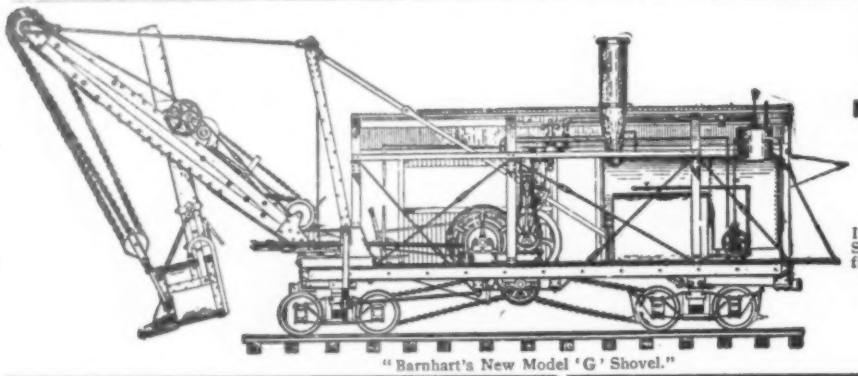

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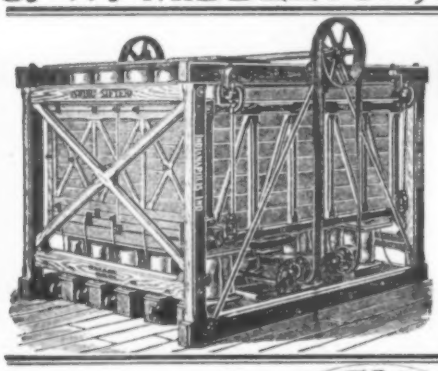

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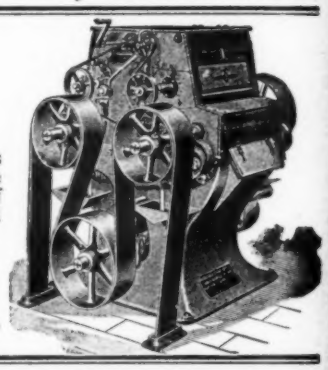

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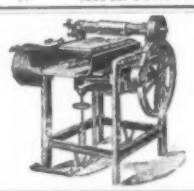

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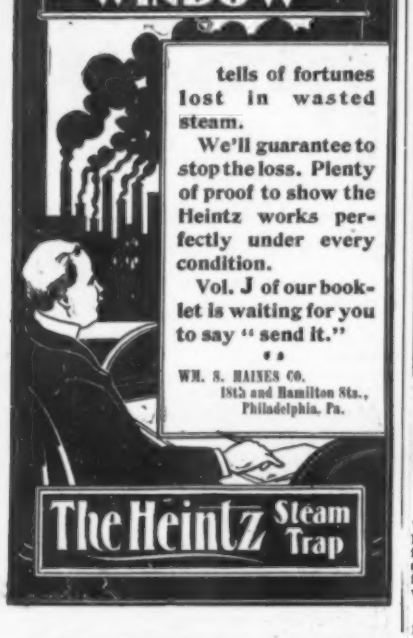

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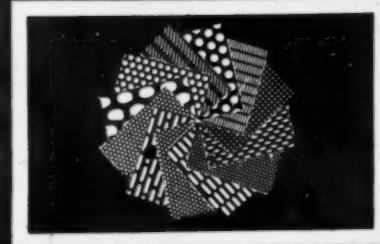

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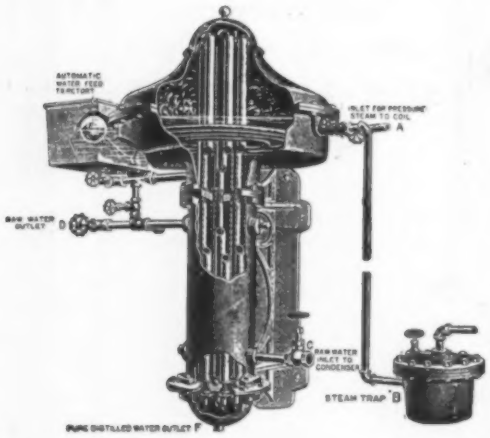

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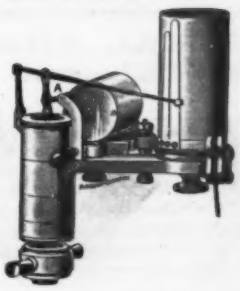

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Smith, Samuel J., & Co., Charlotte, N. C.
Sprague Electric Co., New York, N. Y.
Stanley Electric Mfg. Co., Pittsfield, Mass.
Tower Binford Elec. & Mfg. Co., Richmond, Va
Triumph Electric Co., Cincinnati, O.
Victor Electric Co., Chicago, Ill.
Westinghouse Elec. & Mfg. Co., Pittsburg, Pa.

Electric Contractors.
Alexander, Jr., S. B., Co., Charlotte, N. C.
Electric Supply Co., Savannah, Ga.
Jenks, W. H., Richmond, Va.
Northern Elec. Mfg. Co., Madison, Wis.
Stanley Elec. Mfg Co. Pittsfield, Mass.
Tower-Binford Elec. & Mfg. Co., Richmond, Va.
Upton, W. P., & Co., Washington, D. C.

Electrical Instruments.
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Stanley Electric Mfg. Co., Pittsfield, Mass.

Electric-Light and Power Plants.
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Crocker-Wheeler Co., Ampere, N. J.
General Electric Co., Schenectady, N. Y.
General Incandescent Arc Light Co., New York.
N. J. Foundry & Machine Co., Plainfield, N. J.
Northern Electrical Mfg. Co., Madison, Wis.
Ridgway Dynamo & Engine Co., Ridgway, Pa.
Smethurst & Allen, Philadelphia, Pa.
Sprague Electric Co., New York, N. Y.
Stanley Electric Mfg. Co., Pittsfield, Mass.
Tower-Binford Elec. & Mfg Co., Richmond, Va.
Triumph Electric Co. Cincinnati O
Upton, W. P., & Co., Washington, D. C.
Westinghouse Elec. & Mfg. Co., Pittsburg, Pa.

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Sprague Electric Co., New York, N. Y.
Stanley Electric Mfg. Co., Pittsfield, Mass.
Triumph Electric Co., Cincinnati O.
Westinghouse Elec. & Mfg. Co., Pittsburg, Pa.
Western Electrical Supply Co., St. Louis, Mo.

Electrical Repairs.
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General Incandescent Arc Light Co., New York
Guarantee Electric Co., Chicago, Ill.
Kentucky Electrical Co., Owensboro, Ky.
Smith, Samuel J., & Co., Charlotte, N. C.
Tower-Binford Elec. & Mfg. Co., Richmond, Va.

Electrical Supplies.
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Electric Supply Co., Savannah, Ga.
General Electric Co., Schenectady, N. Y.
Guarantee Electric Co., Chicago, Ill.
Jenks, W. H., Richmond, Va.
Johns Mfg. Co., H. W., New York, N. Y.
Kentucky Electrical Co., Owensboro, Ky.
McCay Engineering Co., Baltimore, Md.
Northern Electrical Mfg. Co., Madison, Wis.
Smith, Samuel J., & Co., Charlotte, N. C.
Stanley Electric Mfg. Co., Pittsfield, Mass.
Sturtevant Co., B. F., Boston, Mass.
Tower-Binford Elec. & Mfg. Co., Richmond, Va.
Triumph Electric Co., Cincinnati, O.
Western Electrical Supply Co., St. Louis, Mo.
Westinghouse Elec. & Mfg. Co., Pittsburg, Pa

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Electric Trucks.
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American Type Founders Co., Baltimore, Md.
Spencer & Hall, Baltimore, Md.

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Aultman Co., The, Canton, O.
Bartlett, Hayward & Co., Baltimore, Md.
Bates', James, Sons, Baltimore, Md.
Curran, Jas. H., Elevator Co., Cincinnati O.
Eaton & Prince Co., Chicago, Ill.
Fairmount Machine Co., Philadelphia, Pa.
Faunt Le Roy & Co., Baltimore, Md.
Link-Belt Engineering Co., Philadelphia, Pa
Maryland Foundry & Machine Co., Baltimore, Md.
Morse, Williams & Co., Philadelphia, Pa.
Parkhurst Bros. & Co., Indianapolis, Ind.
Park Mfg. Co., Charlotte, N. C.
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Westbrooks, J. B., Fdry. & Mch. Co., Danville, Va.

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Dufur & Co., Baltimore, Md.
Ludlow-Saylor Wire Co., The, St. Louis, Mo.
Myers Mfg Co., The Fred J., Hamilton, O.

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Carborundum Co., The, Niagara Falls, N. Y.
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Tanite Co., The, Stroudsburg, Pa.

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Hall, Charles A. M. E., Mobile, Ala.
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Kennedy, Walter, Pittsburg, Pa.
Lederle, Frank, Atlanta, Ga.
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Virginia Bridge & Iron Co., Roanoke, Va.
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Ball Engine Co., The, Erie, Pa.
Ball & Wood Co., New York, N. Y.
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Salem Iron Works, Winston-Salem, N. C
Schoneids, J. S., Sons Co., Macon, Ga.
Smith-Courtney Co., Richmond, Va.
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Southwark Foundry & Machine Co., Philadelphia, Pa.
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Struthers, Wells & Co., Warren, Pa.
Sturtevant Co., B. F., Boston, Mass.
Union Iron Works Co., Selma, Ala.
Valk & Murdoch Iron Works, Charleston, S. C.
Valley Iron Works, Williamsport, Pa.
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Wetherill, Robert, & Co., Chester, Pa
Westinghouse Machine Co., Pittsburg, Pa.
York Mfg. Co., York, Pa.

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Columbus Machine Co., Columbus, O.
Ellington Mfg. Co., Chicago, Ill.
Fairbanks Co., Baltimore, Md.
Olds Motor Works, Detroit, Mich.
Otto Gas Engine Works, Philadelphia, Pa.
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Westinghouse Machine Co., Pittsburg, Pa

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Mietz, A., New York, N. Y.

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Aultman Co., The, Canton, O.

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Acme Photo-Engraving Co., Baltimore, Md.
Alpha Photo Engraving Co., Baltimore, Md.
Baltimore Engraving Co., Baltimore, Md
Middleton, J. W., Chicago, Ill.

Exhaust Heads.
Bonar, James, & Co., Pittsburg, Pa.
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Sterling Blower & Pipe Mfg. Co., Hartford, Conn.

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New Jersey Foundry & Machine Co., Plainfield, N. J.

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Berryman, Jas., Philadelphia, Pa.
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Gem City Boiler Co., Dayton, O.
Green Fuel Economizer Co., Matteawan, N. Y.
Greenwald Co., I. & E., Cincinnati, O.
Harrison Safety Boiler Works, Philadelphia, Pa.
Kelley, Benj. F., & Son, New York, N. Y.
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Patterson, Frank L., New York, N. Y.
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Stilwell-Bierce & Smith-Vaile Co., Dayton, O
Taunton Locomotive Mfg. Co., The, Taunton, Mass.
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Dow Wire Works Co., Louisville, Ky.
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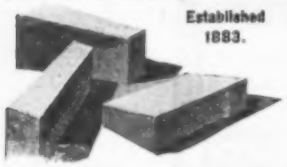

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Reese-Hammond Fire-Brick Co., Bolivar, Pa.
Stevens', H., Sons Co., Macon, Ga.

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Childs Co. O. J., Utica, N. Y.

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Dow Wire Works Co., Louisville, Ky.

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Adams, J. M., Baltimore, Md.
Wilce Co., The T., Chicago, Ill.

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Crosby Steam Gauge & Valve Co., Boston, Mass.

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Columbia Phonograph Co., Balto., Md.

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McClave, Brooks & Co., Scranton, Pa.

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Burnham Grate Co., Huntsville, Ala.

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Caldwell, H. W., & Son Co., Chicago, Ill.
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Robinson, J. M. & Co., Cincinnati, O.

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Root, B. M., York, Pa.
Trevor Mfg. Co., Lockport, N. Y.

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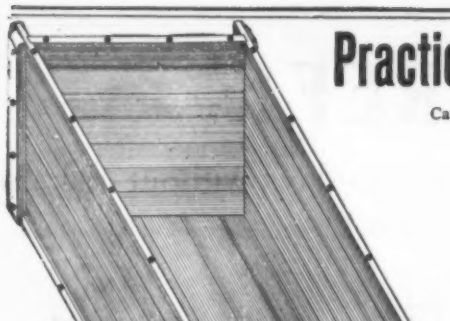

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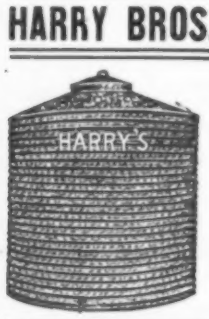

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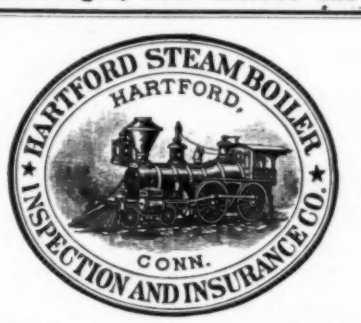

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Stanley Electric Manufacturing Co., Pittsfield, Mass.

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De Ronde, Co., Frank S., New York.
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Eastern Granite Roofing Co., Jersey City, N. J.
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Pinetown Paint & Chemical Co., Pinetown, N. C.
Standard Paint Co., New York, N. Y.

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Barrett Mfg. Co., Philadelphia, Pa.
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Garrett, C. S., & Son, Philadelphia, Pa.
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Standard Paint Co., The, New York, N. Y.

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Mundt, Charles, & Sons, New York, N. Y.

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Aultman Co., The, Canton, O.
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Bradley Pulverizer Co., Boston, Mass.
Cameron & Barkley Co., Charleston, S. C.
Cresson Co., Geo. V., New York, N. Y.
Foos Mfg. Co., Springfield, O.
Link-Belt Engineering Co., Philadelphia, Pa.
McLanahan-Stone Machine Co., Hollidaysburg, Pa.
Raymond Bros. Impact Pulverizer Co, Chicago, Ill.
Simpson Mfg. Co., Chicago, Ill.
Smidth & Co., F. L., New York, N. Y.
Valk & Murdoch Iron Works, Charleston, S. C.
Walker & Elliott, Wilmington, Del.
West Pulverizing Machine Co., New York, N. Y.

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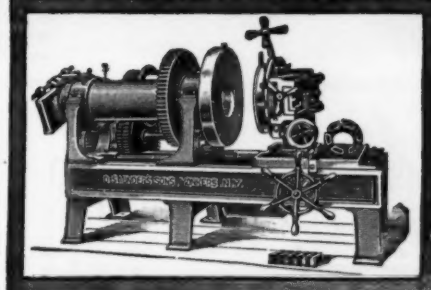

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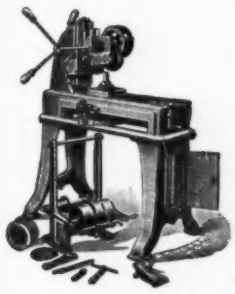

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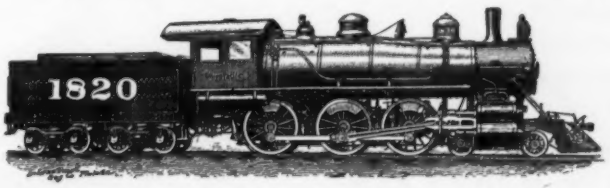

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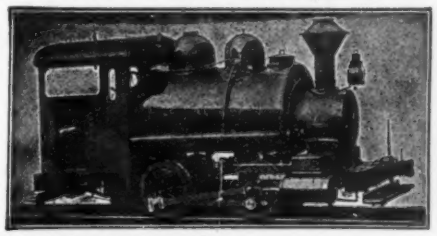

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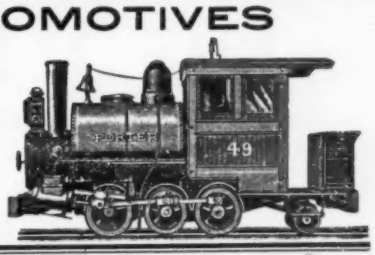

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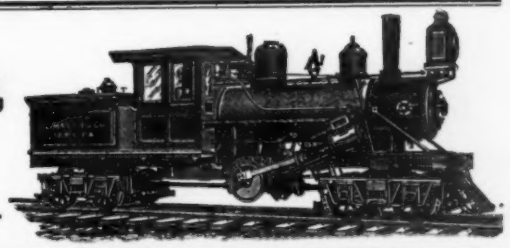

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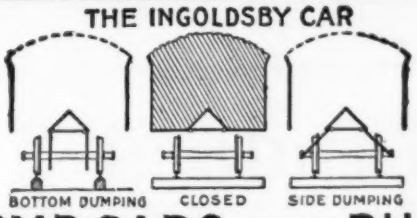

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Noorden Co., E. Van, Boston, Mass.

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Power Specialty Co., New York, N. Y.

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Sturtevant Co., B. F., Boston, Mass.
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Schreiber L., & Sons Co., The, Cincinnati, O.
Virginia Bridge & Iron Co., Roanoke, Va.

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Hoopes & Townsend Co., Philadelphia, Pa.
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York Mfg. Co., York, Pa.

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Houston & Liggett, Lewisburg, Tenn.

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Pomona Terra Cotta Co., Pomona, N. C.
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American Steam Gauge Co., Jamaica Plain, Mass.
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Crosby Steam Gage & Valve Co., Boston, Mass.
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Titus, E. E., Petersburg, Va.

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Pittsburg Meter Co., E. Pittsburg, Pa.

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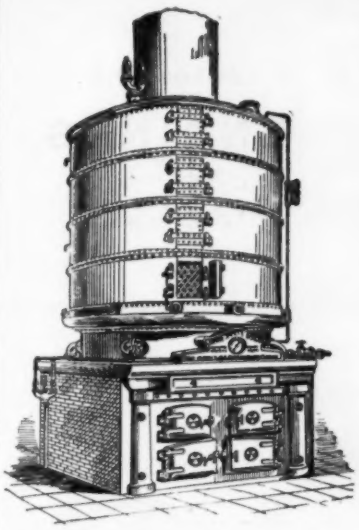

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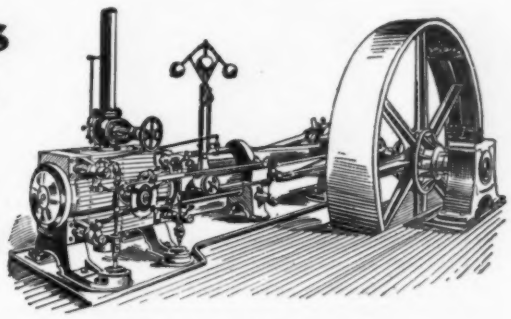

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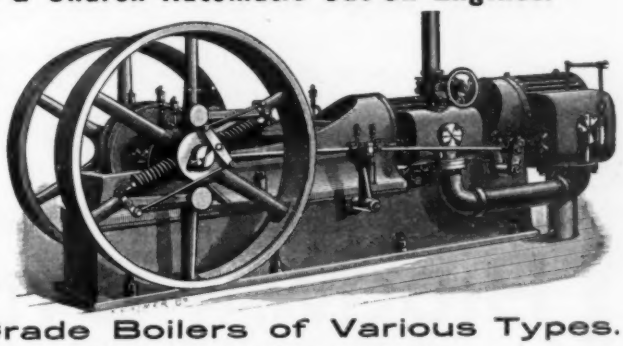

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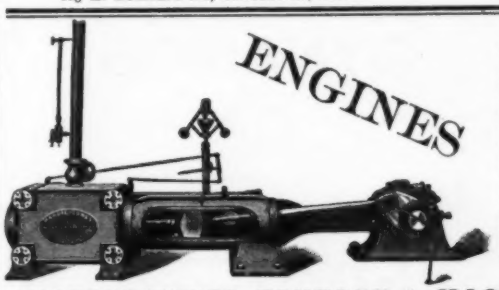

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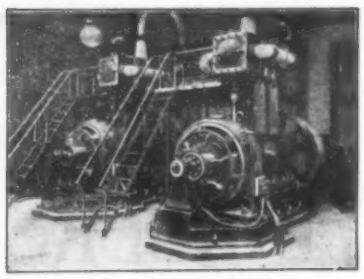

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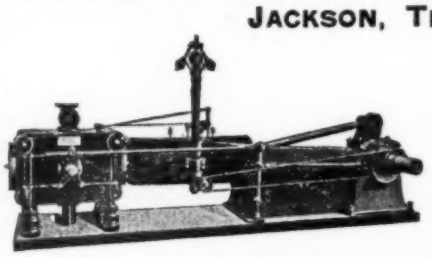
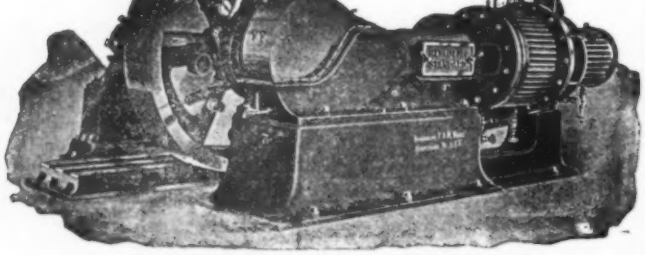


Harrisburg
Engines

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DIRECT CONNECTED STYLE
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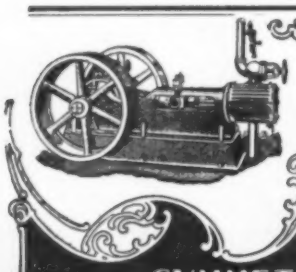
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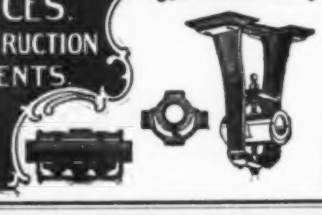

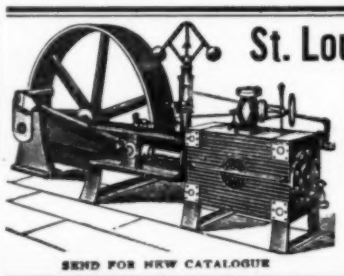
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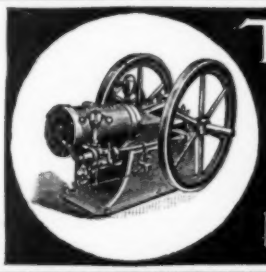
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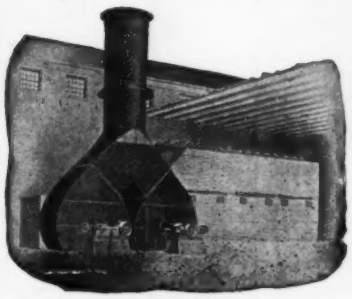

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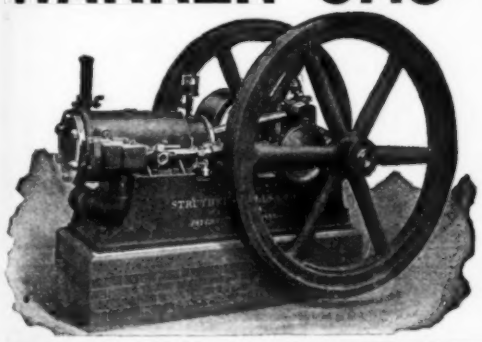

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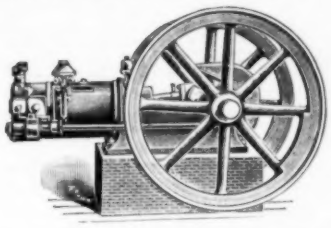

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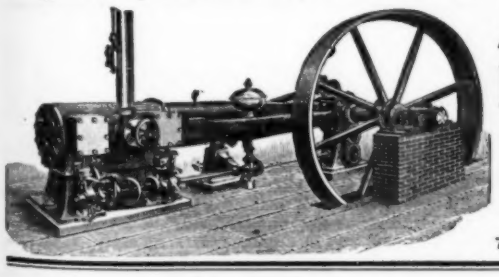

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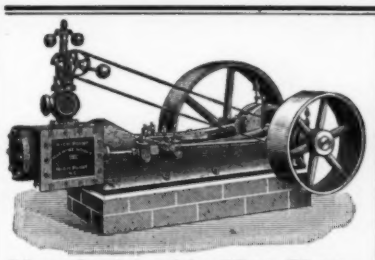

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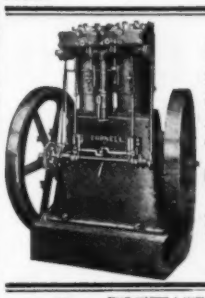

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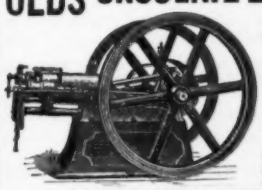

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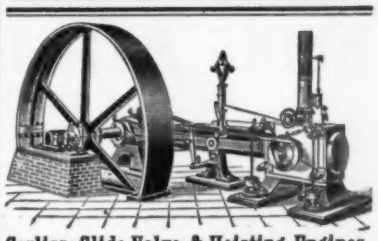

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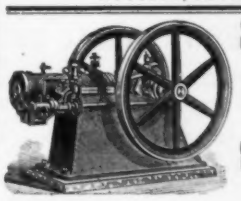

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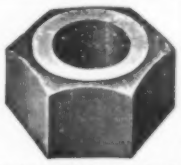

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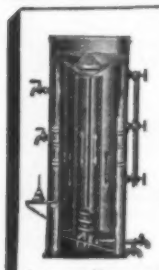

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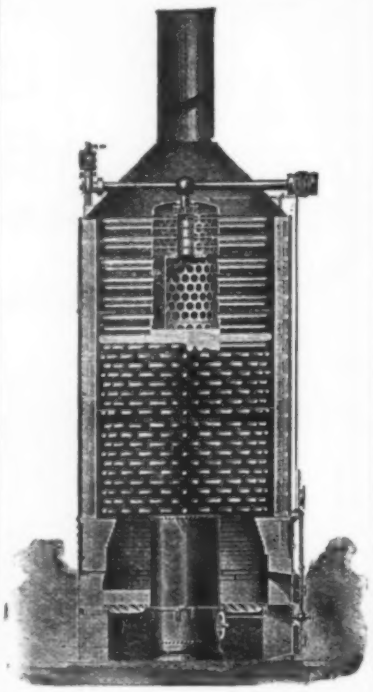

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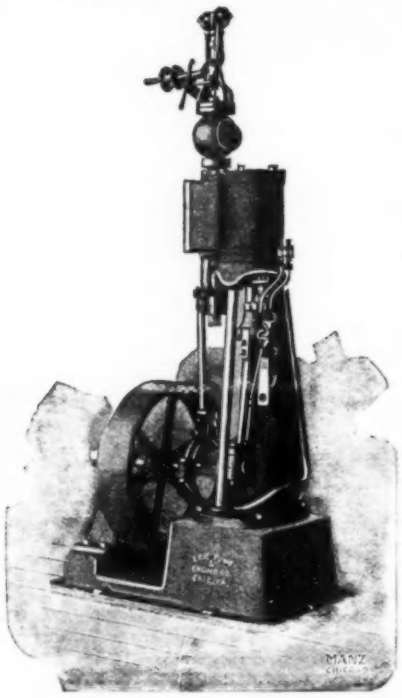

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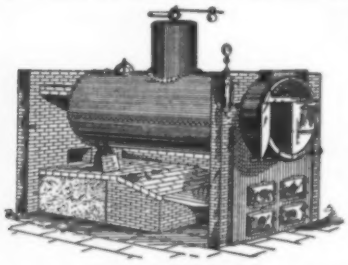

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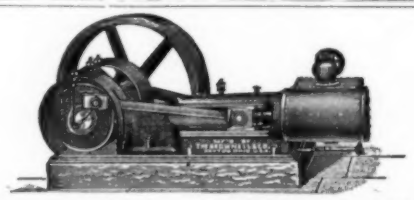

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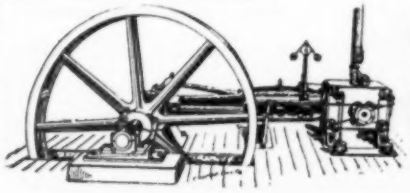

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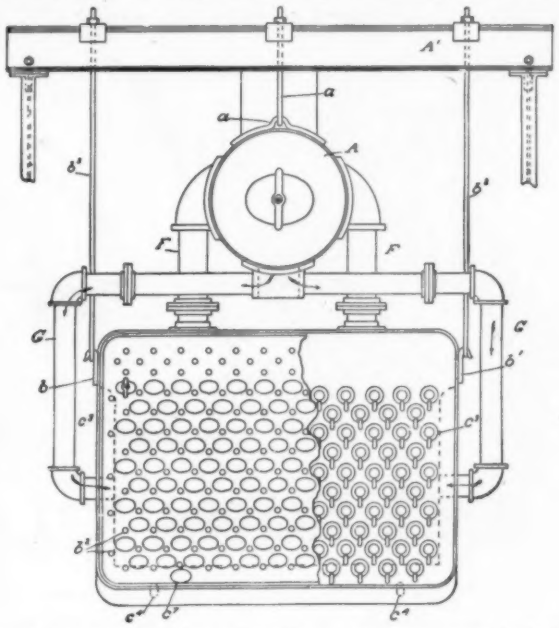

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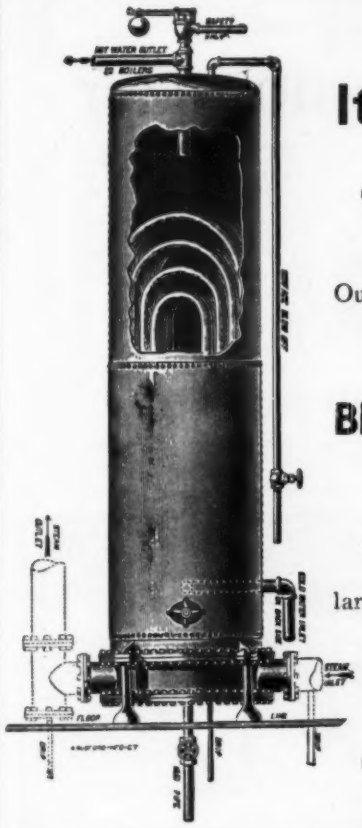

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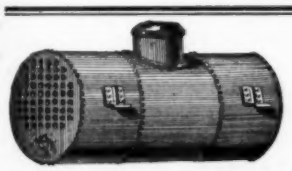

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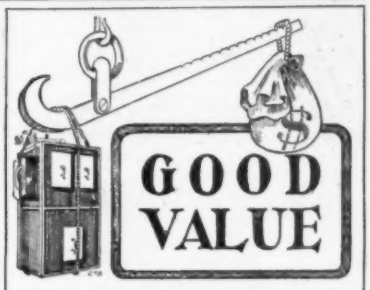

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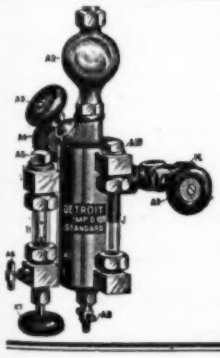

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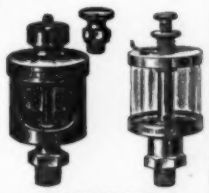

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Have closed Contracts since January, 1900, to July 1st, to equip 37 Plants. We have never failed to receive order to equip all new units installed. We are saving one Company $450.00 a month, the others in proportion. We will refund all money paid if apparatus does not operate successfully. You cannot ask more, so if you will investigate, we will receive your order.

Address Makers, SIEGRIST LUBRICATOR COMPANY, ST. LOUIS, U. S. A.

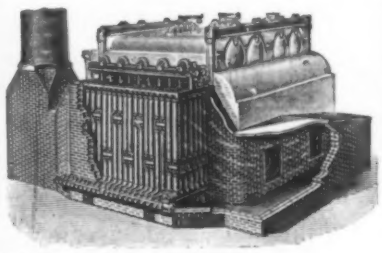
MANUFACTURED ONLY BY E.M. DART MFG. Co. PROVIDENCE R.I.

DART UNION

THE BEST UNION COUPLING MADE IN THE WORLD. NO RUST ON EITHER SIDE.

THE CARDINAL PRINCIPLE OF BUSINESS ECONOMY—COST OF PRODUCTION.

Green's Economizer



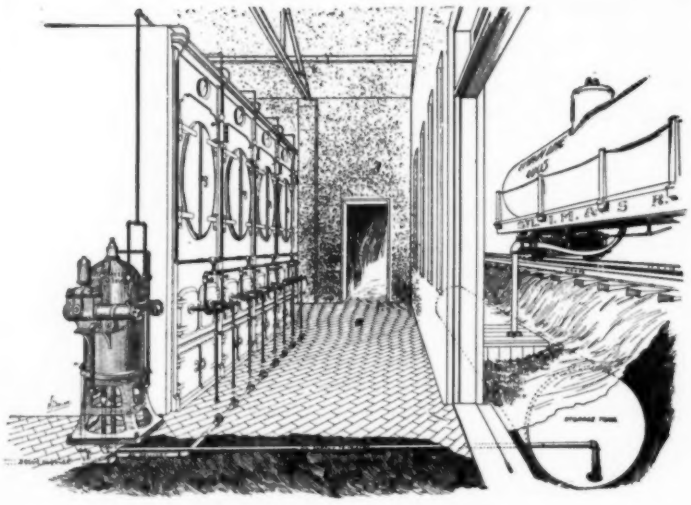
lessens such cost not only ot the extent of **10 to 20 per cent.** on fuel bill, but in increased boiler capacity, decreased boiler repairs—increased heat of feed-water—besides heating of mills, factories, etc., without additional fuel. Our free descriptive booklet, "Green's Economizer," explains our methods.

THE GREEN FUEL ECONOMIZER CO.

Sole Manufacturers in the U.S.A. MATTEAWAN, N. Y.

Fuel Oil

Destined to take the place of solid fuel.



The above view will give some idea of the appearance of your boiler room after being equipped with our **FUEL OIL BURNING APPLIANCES. NOTHING TO GET OUT OF ORDER, EASILY HANDLED,** a perfect and constant heat, as the supply of oil can be regulated to meet all conditions.

Write us for Detailed Information.

Tate, Jones & Co., Inc., Pittsburg, Pa.

Southern Department:

Tate, Jones & Co. of Louisiana, Ltd.,

341 Carondelet Street, NEW ORLEANS, LA.

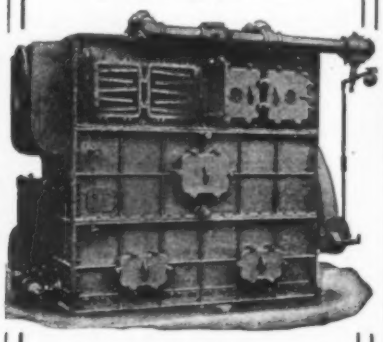
We manufacture Oil Burners, Tanks, Pumping Systems, Meters, etc., for complete plants.

The Cochrane Heater

Forms an admirable receptacle for the condensation from heating coils for all high pressure drips, such as steam jackets, re-heating receiver, high pressure piping drains, etc. In the "COCHRANE" Heater they mingle with the fresh boiler feed-water and are pumped to the boilers without loss of heat or water. With a closed heater a drip tank, with a special pump and other apparatus likely to get out of order, is needed.

Do you wonder why we have so many second orders for our **"COCHRANES?"**

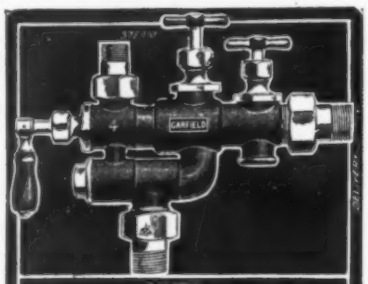
Ask for Catalogue 12-H.



Harrison Safety Boiler Works

Allegheny Ave. and 17th Street,

PHILADELPHIA, PA.



The Garfield Double Jet INJECTORS

Designed for a high lift and to take water at a high temperature. Absolutely positive in operation. Cannot fail.

Send for complete Injector Catalog.

The Ohio Injector Co. Wadsworth, Ohio.

THE GEM OIL BURNER

BEST ON THE MARKET.

We furnish complete equipments for Burning Oil—the new fuel for the South and West. We manufacture

BOILERS, TANKS of any size for any purpose. **STACKS AND STANDPIPES.**

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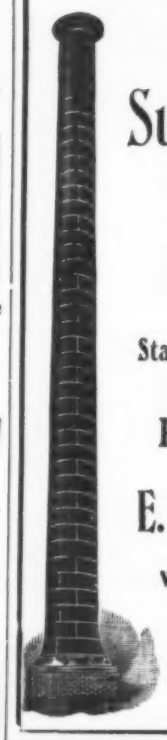
Main Office and Works—Washington, Pa. Branch—Corsicana, Texas.



Self-Supporting Steel Stacks

Stand Pipes, Tanks, HIGH GRADE BOILERS

E. Keeler Co.

Established 1865

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The cut is a Stack erected by us in Cork, Ireland.

American Patent Marine Pop Valve, Board of Trade Pattern.

Gauges that Gauge. Indicators that Indicate. Pops that Pop.

HIGHEST AWARD at Paris Exposition, 1901. The only American indicator to receive a medal. The gold medal awarded at Pan-American Exposition on Gauges, Pop Valves, Indicators and Engineering Specialties.

The Indicators that made Indicators Famous.

ORIGINAL AND ONLY GENUINE THOMPSON INDICATOR.

Clocks, Revolution Counters, Whistles, and all kinds of Steamship Instruments.

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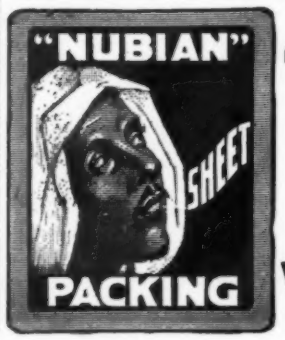
VINCENT GATE VALVES

Have an adjustable wedge and Do Not Leak.

SWEET & DOYLE. COHOES, N. Y.

If you wish to keep posted on the progress of the South, read the Manufacturers' Record. Price $4 a year.



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33 to 77 Michigan St.,
CHICAGO, ILL.

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EXTRA HEAVY

Valves and Fittings

of all kinds, and furnish material to sketch for power plants.

We Bend Pipe. Send us your blue prints for estimates.

We Also Make

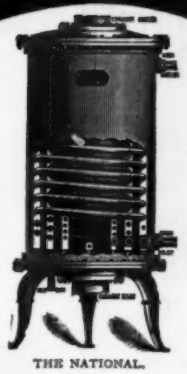
Separators,

Reducing,
Back Pressure
and Relief

Valves.

Write for catalogue.

Some Points of Excellence OF THE NATIONAL.



THE NATIONAL.

1,000,000 H. P. In Daily Use.

It delivers water to the boiler at 210° F.
No inside joints to leak.
No straight tubes to leak.
No back pressure is possible.
No contact of water with shell or iron.
No chances of grease in boiler.

THE NATIONAL FEED-WATER HEATER

WE ALSO MANUFACTURE

Coils and Bends

OF

IRON, BRASS AND COPPER PIPE.

WRITE FOR OUR CATALOGUE.

The National Pipe Bending Co
97 LLOYD ST., NEW HAVEN, CONN.

THE ROBINSON

OILS

"they lubricate more, and outlast other oils."

High-Grade,
Cylinder, Engine, Spindle,
Dynamo Oils.

Oils for all types of Machinery.

GREASES.

WM. C. ROBINSON & SON,
217 South Street, BALTIMORE, MD.

There is Only ONE ALBANY GREASE

Look out for YELLOW Label.

Remember, a Sample can of Albany Grease with an Albany Grease 4 up free of charge or expense for testing.

And we are the ONLY MAKERS.

We have solved the problem of economical lubrication.

Cost of using oils
Cost of using Albany Grease

Use only the best lubricants on your Engines and Machinery. It will reduce friction; save wear and tear; reduces fuel bills and machine shop bills and results in a Great Saving of Money.

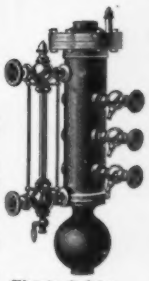
EVERY ENGINEER AND MACHINIST ought to send for a Free Catalogue and Sample.

Adam Cook's Sons,
313 West St., New York City, U. S. A.
Branch, 31 S. Canal St., Chicago, Ill.

An Improvement which Economizes

Is bound to get the approval of the American manufacturer—the reason for the success attained by the

WRIGHT IMPROVED Safety Water Columns



Wright Safety Water Column.

They do their work, and in addition pay for their cost over and over in fuel economy, obviating boiler repairs and prolonging the life of boilers.

Let us send catalogue of this and of the

Wright Emergency Steam Trap,

a simple, efficient, unfailing device which discharges instantly any unusual inflow of water. Wastes no steam under ordinary conditions.

WRIGHT MANUFACTURING CO.
80 SHELBY STREET
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WAINWRIGHT
ARE MADE BY THE
TAUNTON LOCOMOTIVE MFG. CO.—TAUNTON MASS.

FEED WATER HEATERS.
SURFACE CONDENSERS.
EXPANSION JOINTS.

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NEW YORK.

RIVETS
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For Harness and Leather Work.

HYDRAULIC PRESSES, JACKS, PUMPS, RIVETERS, PUNCHES, VALVES, Etc.
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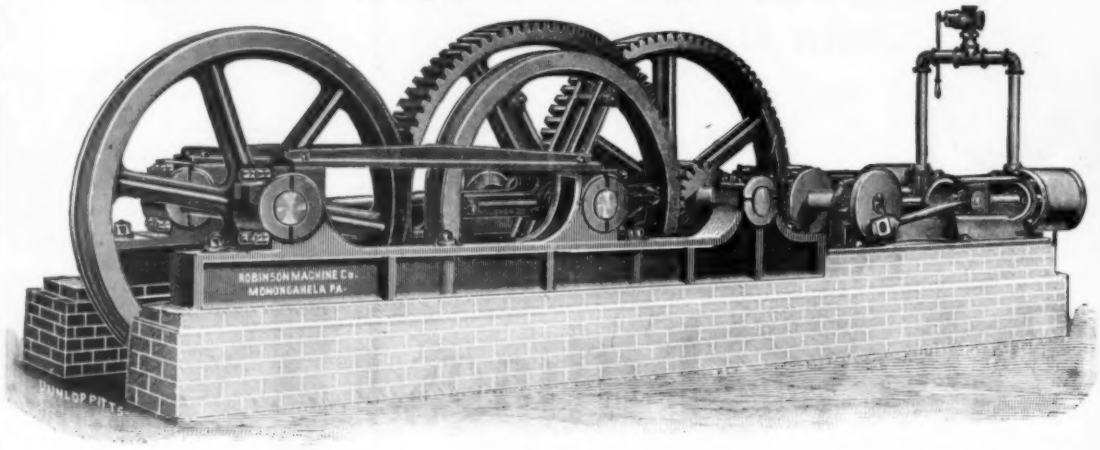
204-210 E. 43d St. NEW YORK.
Send for Catalogue H H.

Contractor's Plant Mfg. Co., Ltd.
MANUFACTURERS OF
STEAM, HORSE and HAND POWER
Hoisting Machines
DERRICK IRON and CONTRACTORS' SUPPLIES.
MANUFACTURERS OF WIRE ROPE.
129 Erie Street, Buffalo, N. Y.
Mention this Journal.

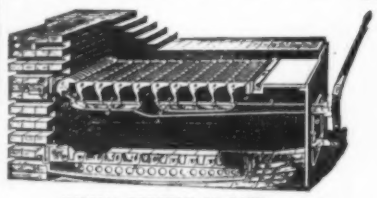
HAND POWER · BELT · STEAM · ELECTRIC
HOISTING MACHINERY.
CRANES
THE CASE MFG. CO.
COLUMBUS, O., U. S. A.

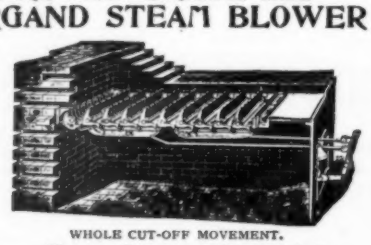
Endless Rope Haulage Machine.



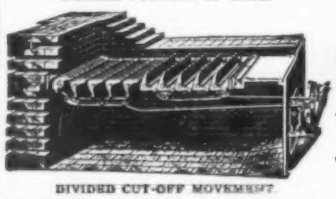
Built with especial regard to the severe duty required of haulage machinery. It consists of a pair of small engines, geared with compound gearing into two grooved drums, the object of the compound gearing being two fold. 1st, to slow the rope to its proper running speed; 2d. to secure greater power from a small pair of engines. All shafts run in Babbitt metal boxes, which are part of the frame castings which support the entire machine. The advantages of this system of haulage are:
1st. Small cost of machine. Small cost of steam plant required to operate the small engines, which reduces the cost of fuel and attention that would be necessary for a tail-rope system doing an equal amount of work. 2d. Less amount of rope required.
3d. Slow rate of speed of the cars, which reduces the cost of repairs for same.
4th. Rapidity of handling cars. The full train of cars is attached to the rope at the inside parting, proceeding to the tipple without delay. The empty train is attached at the tipple and returns to the inside parting for distribution in the mine. The tipple crew detach the cars, dump and attach to the return line, thus having a constant train of cars on the line at all times.
5th. Avoidance of all possibility of wrecks on the road.
MANUFACTURED BY THE
ROBINSON MACHINE CO., Monongahela, Pa.
Full Particulars on Application.

McCLAVE'S IMPROVED GRATE and ARGAND STEAM BLOWER For BOILER and Other Furnaces
Send for Illustrated Descriptive Catalogue C.


NORMAL POSITION OF GATE.


WHOLE CUT-OFF MOVEMENT.

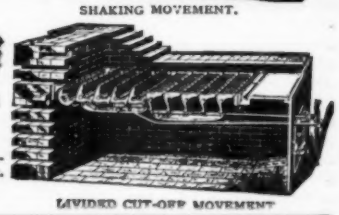
SHAKING MOVEMENT.


DIVIDED CUT-OFF MOVEMENT.

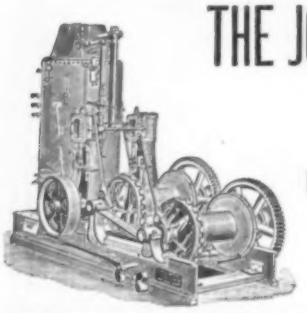
Argand Steam Blower.

These appliances together combine more valuable features for burning the smaller sizes of hard and soft coal, such as Anthracite, Culm, Birdseye, Buckwheat and Bituminous Slack than any other system; while the Grate alone stands unequalled for burning the larger sizes of these fuels with natural draught. The Argand Blower gives excellent results in burning Spent Tan, Sawdust, Bagasse, &c.

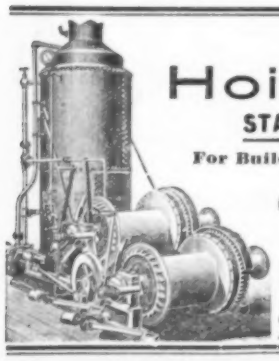
Cross Sectional View.


DIVIDED CUT-OFF MOVEMENT.

McCLAVE, BROOKS & CO., Scranton, Pa



THE JOHN F. BYERS MACHINE CO.
RAVENNA, OHIO.
Manufacturers of
Hoisting Engines, Locomotives, Derrick Cars, Derrick Irons, Etc.
Write for Catalogue "F."



LIDGERWOOD
Hoisting Engines,
STANDARD FOR QUALITY AND DUTY.
For Building Purposes, Pile Driving, Excavating, Etc.
OVER 17,500 IN USE
Cableways, Hoisting and Conveying Devices for Mining, Quarrying, Steam Logging, etc.
Send for Latest Catalogue.
LIDGERWOOD MFG. CO.
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Specific Claims, Not Generalities.

Austin Separators
remove the moisture from live steam; also oil, grease and other dangerous elements from exhaust steam.

Austin Separators
have a large area of separating surface and a perfect system of drainage.

Austin Separators
are always safe and sure in practical operation. Mechanically perfect in construction. Built in various styles and sizes.

Will be sent on 30 days' trial, to be returned at our expense if not satisfactory.
Send for Catalog.

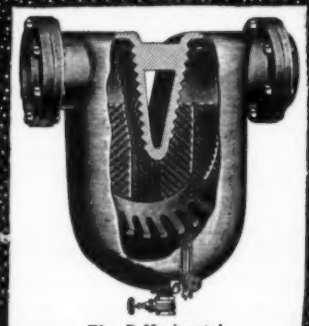
Fig. B Horizontal.

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HEATING AND VENTILATING
SEND FOR CATALOGUE 32 OLIVER ST. BOSTON.
EXETER MACHINE WORKS EXETER, N.H.

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AMERICAN SHIP WINDLASS CO., Providence, R. I.

THE MILNER & KETTIG CO.,

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For Rapid Transmission of Cash, Orders, Papers, Documents. Used in Dry Goods Houses, Banks, etc. Write for estimates.

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Chicago, 156 Lake St.
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WATCHMAN'S CLOCK

LATEST IMPROVED.

Gives an exact record of the Watchman's doings.

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127 Duane Street, NEW YORK.

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Bromell's Patent Vapor System of Heating.

All the advantages of Hot Water Heating, with none of its objectionable features.

Absolutely no pressure on the radiators. Noiseless. No Air Valves used on radiators.

Radiators can be heated part way or all over, as repuired to properly heat the room.
Radiator Valve can be locked fast in any desired position.
Can be used with any good steam heating boiler.
Can be used with high pressure boilers or exhaust steam.
Smaller pipes required than with any other system.
Can be installed by any competent steam fitter.
First cost less than hot water, and will use less fuel than any other system.

This system is now being installed in many prominent buildings in the South, among which are:

The S. A. L. Hotel at Hamlet, N. C.
Fourteen buildings at Pinehurst, N. C.
The Jones Building, Newport News, Va.
The residence of MR. W. H. POST, Newport News, Va.
The residence of MR. H. M. FLAGLER, Palm Beach, Fla.
The residence of MR. A. D. PRICE, Washington, D. C.

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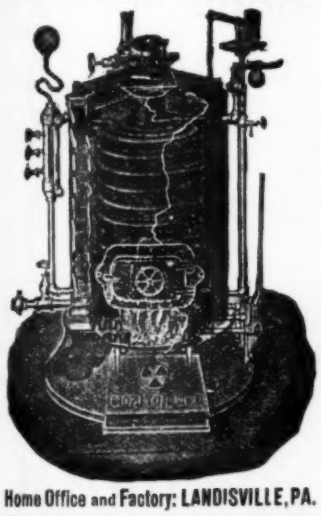

The Best Always Cheapest!

Therefore invest in a

MONITOR

Wrought-Iron Coil Boiler

For Heating By Steam or Water.

The Greatest Fuel Economist. Easily Operated. Needs No Cleaning. Perfectly Safe. Cannot Explode. Durable. Lasts a Lifetime.

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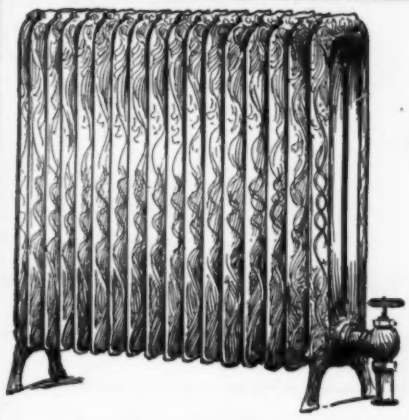
U. J. BOSSLER, MGR.

Home Office and Factory: LANDISVILLE, PA.



Between the radiator and the coal bin put a

RICHMOND

Steam HEATER Hot Water

And you'll get more satisfactory results at less cost.

Catalogue will tell you why.

The Richmond Stove Co.

Norwich, Conn.

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BOSTON, 181 Tremont Street.
PHILADELPHIA, 18-24 S. 7th Street.

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Heating, Ventilating and ...Sanitary Engineers.

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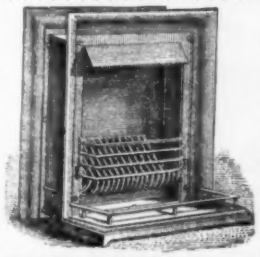
Headquarters for Commercial Men.

New Atlantic Hotel,

J. HULL DAVIDSON, Manager.

Rates, $2.50 and $4.00. Norfolk, Va.



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Wonderful Burnam Grate

to dealers or to consumers where there is no agent. It warms two ajoining rooms on the same floor with **One Fire.** For instance—family and childrens' room, family room and parlor, or bed room or bath room, or hall, or two rooms of an office, etc. **One** fire does the work of **Two.**

What you save in the construction of the chimney more than pays for the grate and **saves half the fuel forever.**

The rich man's convenience,
The poor man's friend.

Dealers, architects and builders wanted for agents in every city and town. Most liberal terms given and **freight prepaid** to any point east of the Rocky Mountains. Ask for illustrated booklet, free, with full information. Address **BURNAM GRATE CO., Fayetteville, Tenn.**

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Structural Steel and Iron.

Bridges, Buildings, Roofs, Trusses.

Steel Frame Work for Car Barns, Plantation Buildings, Sugar Refineries, Mills, Sheds, Public Markets, Power Houses, Etc.

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LILLIBRIDGE, N.Y., 21-219.

Our Antimony "N. J. C." Red Sheet Packing

is the best known composition for difficult steam joints, and can be relied upon for efficiency and economy. Stock sizes 1-32 to 1-4 inch in thickness.

Gum Core Packing.

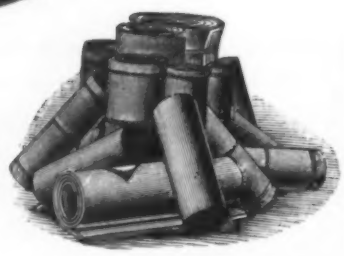
The Diamond brand is oblong, pure rubber core and best quality of flax. Guaranteed to be the best packing on the market.

Eagle brand is round, pure rubber core, best quality of flax.

Both packings are thoroughly lubricated.

Universal Tubular Gaskets.

This invention provides a Gasket or Packing Ring which can be adapted to any size or shape desired. The core is continuous, flexible and may be slipped along the tube.



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High Grade Rubber Goods for Mechanical Purposes. Linen and Cotton Fire Hose.

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AUTOMATIC TOP FILLER SYSTEM

REPRESENTS THE LATEST AND MOST IMPROVED

Blast Furnace Construction.

Low First Cost. Economical in Operation.
REDUCES LABOR TO THE MINIMUM.

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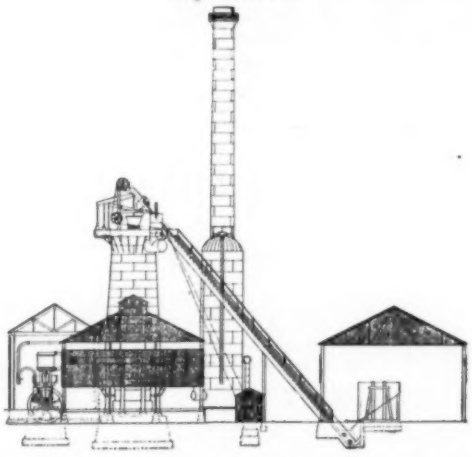

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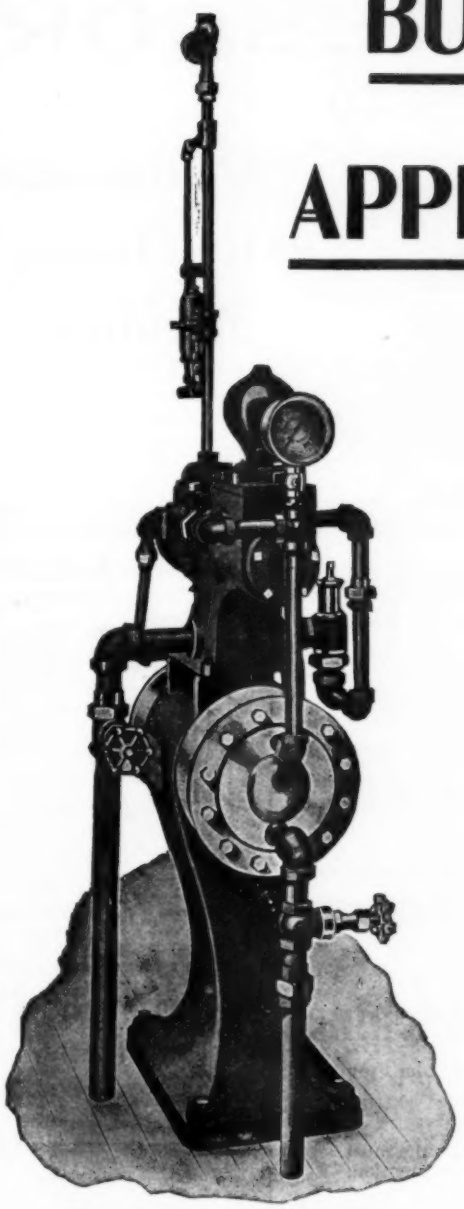

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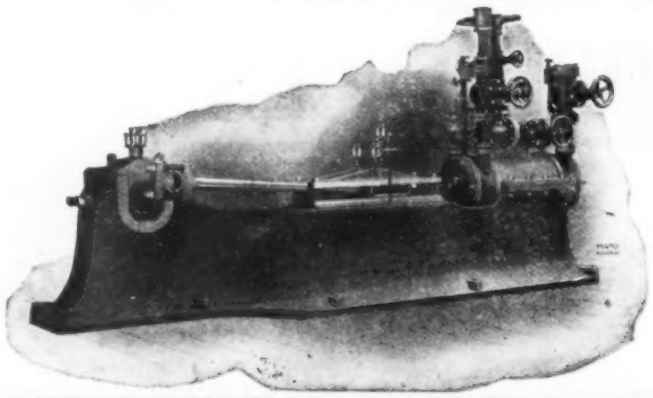

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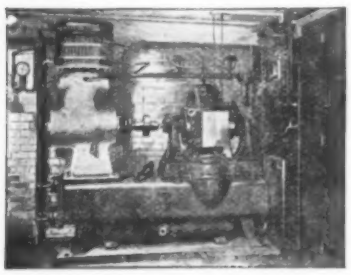

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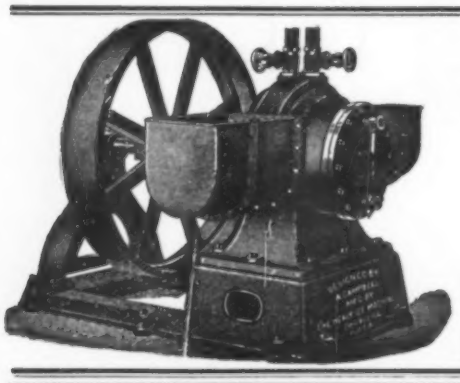

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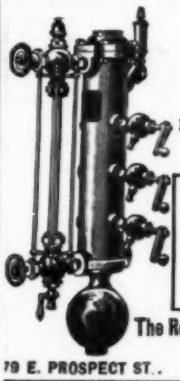

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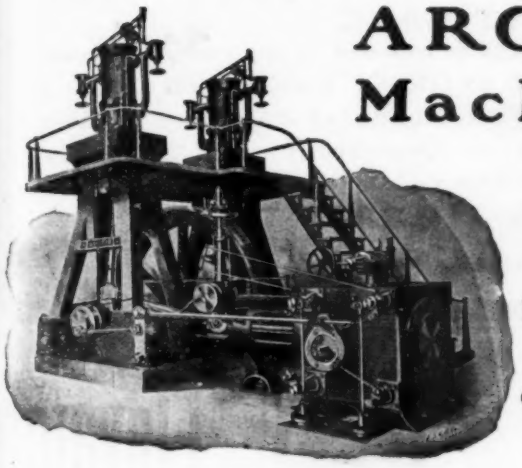

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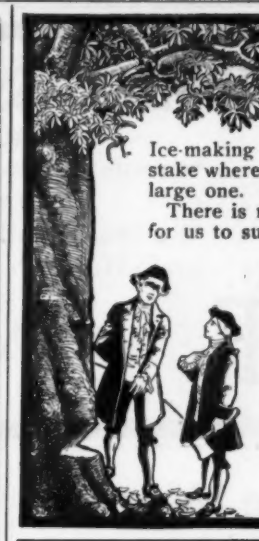

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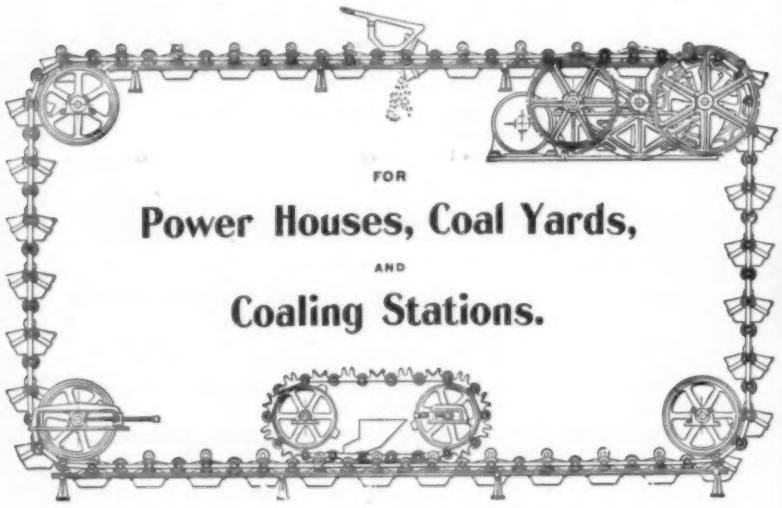

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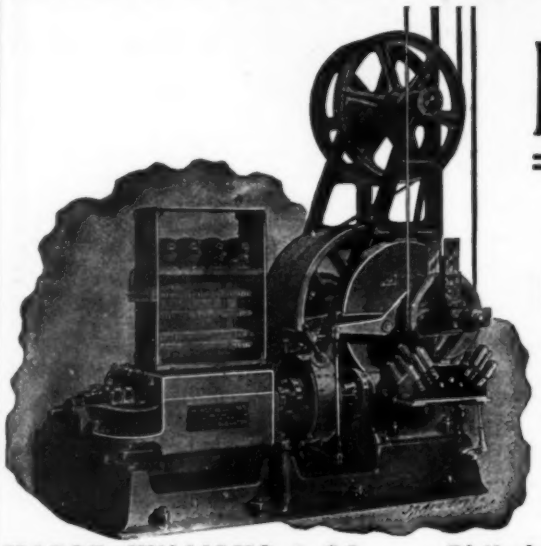

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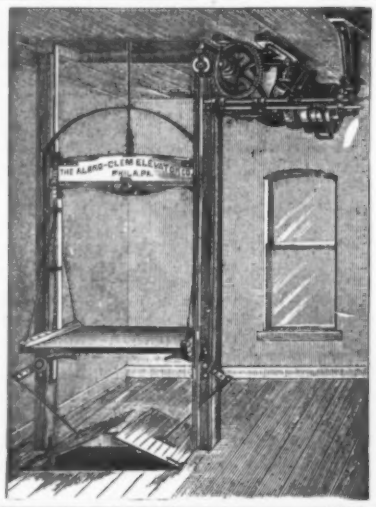

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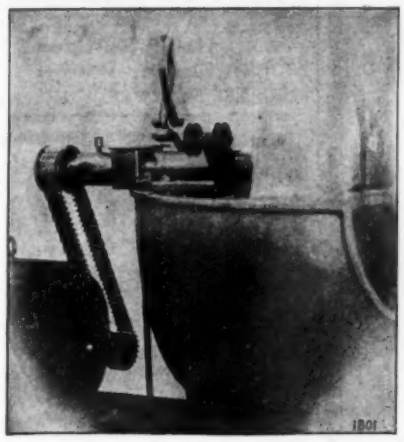

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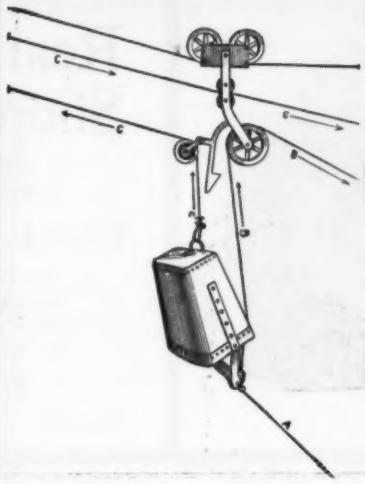

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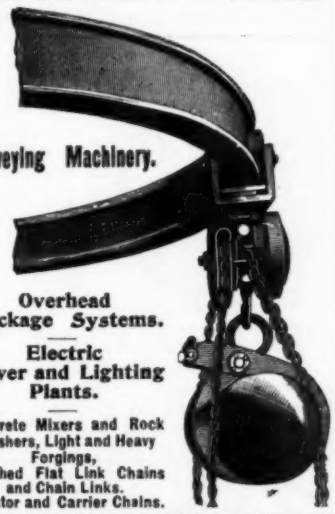

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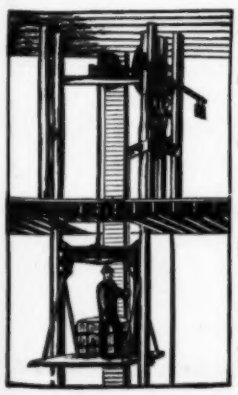

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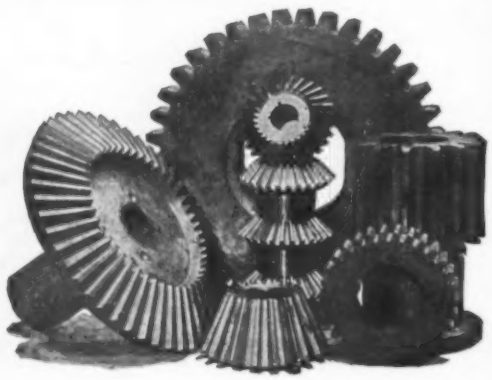

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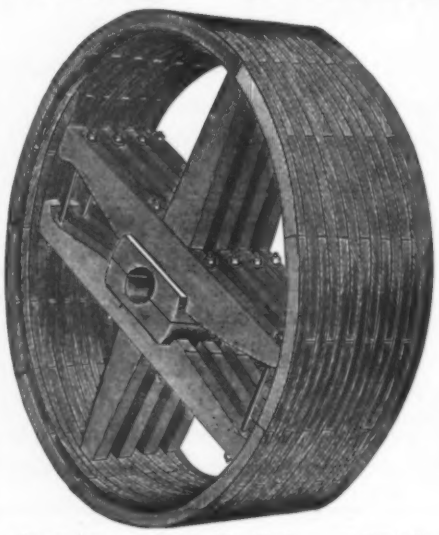

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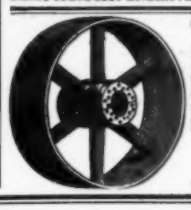

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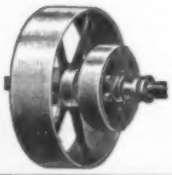

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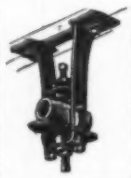

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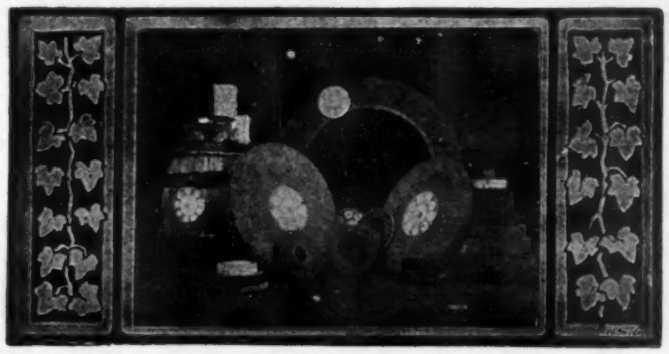

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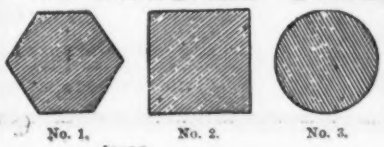

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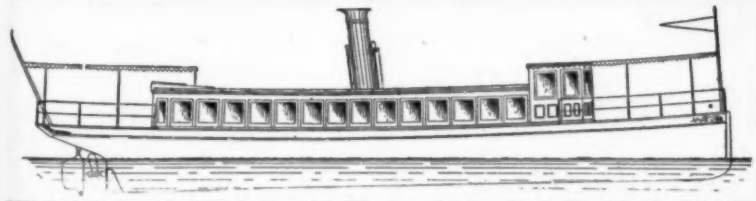

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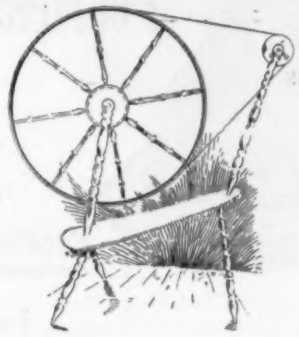

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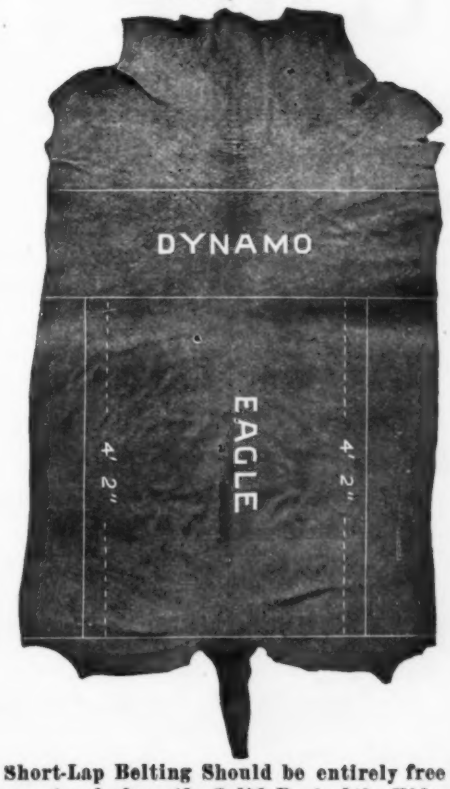
PURE OAK TANNED



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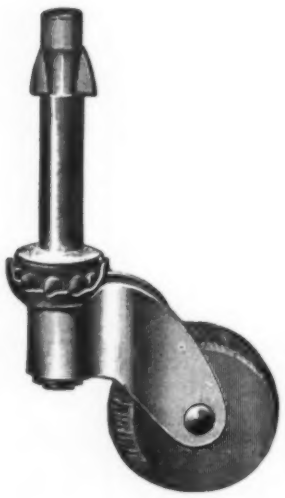

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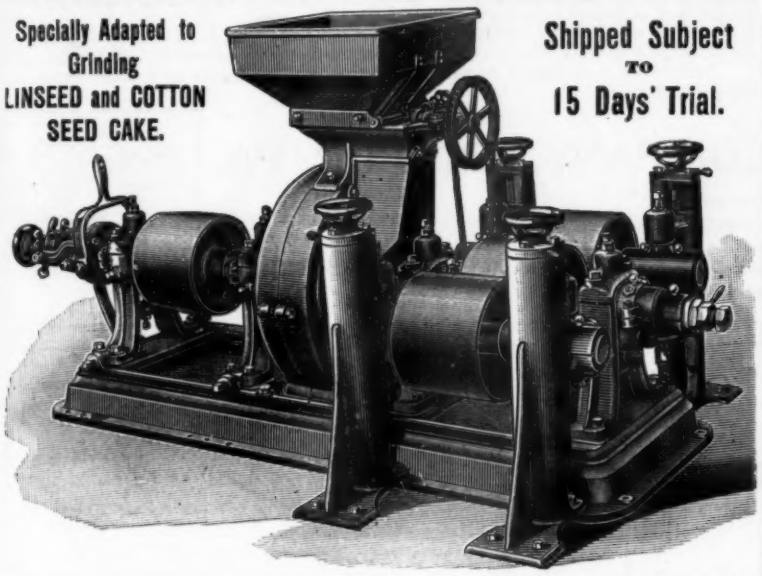

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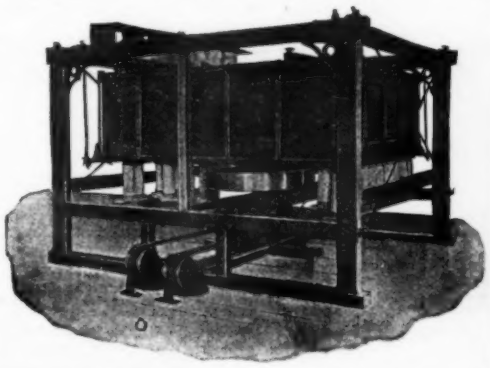

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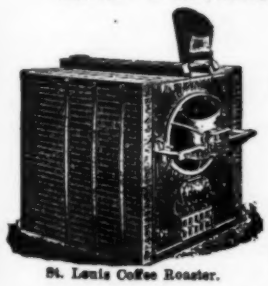

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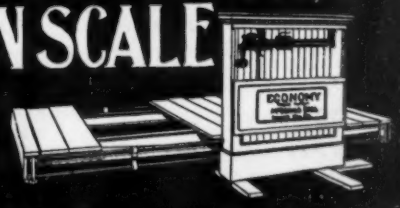

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Important Litigation Relating to Magnesia Covering Patents.

The Keasbey & Mattison Co., the owners of the patents for magnesia covering, have commenced a suit in the United States Circuit Court for the Southern District of New York against the **Philip Carey Mfg. Co., George D. Crabbs, J. E. Breese, Schoellkopf, Hartford & Hanna Co., J. F. Schoellkopf, Jr., James Hartford, W. W. Hanna, C. P. Hugo Schoellkopf and Jesse W. Starr** to restrain the defendants from making and selling magnesia covering for boilers and steam pipes containing more than 50% of magnesia, and especially coverings containing 85% of magnesia.

The bill prays for a preliminary writ of injunction, to be continued during the pendency of the suit, and upon the final determination thereof to be made perpetual, and also demands an accounting and damages.

☞ All persons are respectfully requested to refrain from purchasing covering infringing these patents, as such purchasing must of necessity lead to suit. ☜

Beware of Fraudulent so-called "Magnesia" Coverings as well as those infringing on patents.

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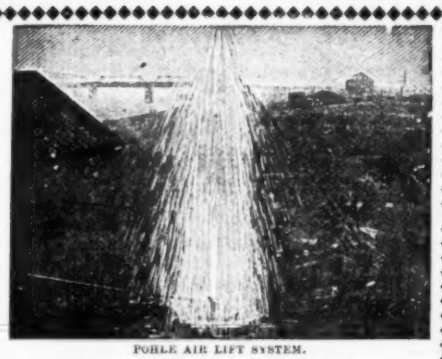

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Manufacturers' Record.

RICHARD H. EDMONDS, President.
THOMAS P. GRASTY, Vice-President.

OFFICE: MANUFACTURERS' RECORD BUILDING, BALTIMORE.

PUBLISHED EVERY THURSDAY BY THE

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RICHARD H. EDMONDS,
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BALTIMORE, DECEMBER 5, 1901.

COPY FOR ADVERTISEMENTS.

Advertising copy (changes or new advertisements) should reach us Saturday Morning to insure insertion in the issue of the following week.

For the first issue in the month we should receive copy by Friday Morning of the week preceding.

Mr. F. R. Hyman, the secretary and manager of the Brick & Tile Manufacturing Co. of New Berne, N. C., writes to the Manufacturers' Record as follows:

We beg to state that we think more of your paper than of all the trade papers we subscribe to. We thank you very much for the many courtesies you have shown us, and you may rest assured that we never miss an opportunity to say a good word for your paper, as we consider it the best friend of the South.

President Roosevelt's Message

Though a long one, as circumstances undoubtedly demanded, the first message of President Roosevelt to Congress will have the wide and careful reading which it eminently deserves. Its diction is vigorous; it is pervaded by the spirit of broad philosophy in which the great problems of the United States are to be satisfactorily met and solved—the spirit which recognizes the necessity for wholly different action than that called for or possible a hundred years ago, inasmuch as sweeping changes have occurred both in industrial and political conditions, and it is marked by a business-like grasp of questions, such as the suppression of anarchy, the reduction of evils growing out of economic revolutions, the cause of labor, immigration, finance, transportation, forestry, irrigation, policies in insular possessions, expositions, with an exceedingly friendly word for that of Charleston, and the strengthening of the navy as contributory to the expansion of our foreign commerce. As bearing directly upon that President Roosevelt calls for immediate action by Congress for the relief of the American merchant marine. He says:

It is discreditable to us as a nation that our merchant marine should be utterly insignificant in comparison to that of other nations which we overtop in other forms of business. We should not longer submit to conditions under which only a trifling portion of our great commerce is carried in our own ships. To remedy this state of things would not merely serve to build up our shipping interests, but it would also result in benefit to all who are interested in the permanent establishment of a wider market for American products, and would provide an auxiliary force for the navy. Ships work for their own countries just as railroads work for their terminal points. Shipping lines, if established to the principal countries with which we have dealings, would be of political as well as commercial benefit. From every standpoint it is unwise for the United States to continue to rely upon the ships of competing nations for the distribution of our goods. It should be made advantageous to carry American goods in American-built ships.

At present American shipping is under certain great disadvantages when put in competition with the shipping of foreign countries. Many of the fast foreign steamships, at a speed of fourteen knots or above, are subsidized, and all our ships, sailing vessels and steamers alike, cargo carriers of slow speed and mail carriers of high speed, have to meet the fact that the original cost of building American ships is greater than is the case abroad; that the wages paid American officers and seamen are very much higher than those paid the officers and seamen of foreign competing countries, and that the standard of living on our ships is far superior to the standard of living on the ships of our commercial rivals.

Our government should take such action as will remedy these inequalities. The American merchant marine should be restored to the ocean.

Closely identified with the upbuilding of the merchant marine is the construction of an isthmian waterway. Referring to this, President Roosevelt announces that the signed treaty with Great Britain will at once be laid before the Senate, which, if ratified, will enable the United States to begin preparations for an isthmian canal at any time, and which guarantees to this nation every right that has ever been asked in connection with the canal, and says:

No single great material work which remains to be undertaken on this continent is of such consequence to the American people as the building of a canal across the isthmus connecting North and South America. Its importance to the nation is by no means limited merely to its material effects upon our business prosperity, and yet with view to these effects alone it would be to the last degree important for us immediately to begin it. While its beneficial effects would perhaps be most marked upon the Pacific coast and the Gulf and South Atlantic States, it would also greatly benefit other sections. It is emphatically a work which it is for the interest of the entire country to begin and complete as soon as possible; it is one of those great works which only a great nation can undertake with prospects of success, and which, when done, are not only permanent assets in the nation's material interests, but standing monuments to its constructive ability.

Every true American will appreciate the large-mindedness displayed by President Roosevelt throughout his message. On minor matters points of view may differ, but every progressive citizen will recognize the fact that the President, in his treatment of the subject of an isthmian canal, the key to much of America's future industrial and commercial greatness, has sounded the keynote of his administration.

In a letter to the Manufacturers' Record W. E. Davis & Co. of Alvin, Texas, say regarding the publication in the Manufacturers' Record of their plans for a crate factory:

Since you have published the announcement we have been overwhelmed with correspondence in regard to machinery. An announcement in your paper seems to be equal to a hundred-dollar advertisement.

Let the South Act for Its Poor White Boys.

In different parts of the country the suggestion of the editor of the Manufacturers' Record of a definite, practical plan for the industrial education of the poor white boys of the South continues to be given hearty endorsement by individuals and by the press. The Jackson (Miss.) correspondent of the New Orleans Picayune, reviewing the proceedings of the Southern Cotton Spinners' Association at Atlanta, says:

Every delegate to the Atlanta convention was an advocate of technical education, the proper training of the boys and girls of the South to fill the positions which mills and factories are opening to them, rather than having trained experts from the North come into the cotton mills of the South and occupy these positions and draw the salaries which should go to our home people. Every speaker emphasized this necessity. The speech of Mr. Richard H. Edmonds, the brilliant editor of the Manufacturers' Record of Baltimore, eloquently appealing for the technical education of a thousand young men in the South on an endowment plan, should touch the patriotism of the philanthropists of the North. A technical education of a thousand young men in the South, as is well pointed out by Mr. Edmonds, would do more for mankind in the South, and relatively for the whole country, than any other one thing, perhaps, that could be brought about. If some great philanthropist of the North who is lying awake nights devising schemes by which he can be rid of his wealth along humanitarian lines will take up this matter, he will have built himself a monument more enduring than brass; he will have indissolubly linked his name with the highest and most beneficent history of the world.

In a letter to the Manufacturers' Record Mr. John G. Kostmeyer of New Orleans says:

If the many could get in touch with you to give expression in person to their feelings for the noble cause you publicly advocate they would number way up in the thousands. There are many families favorably regarded in their respective communities who have boys sixteen or seventeen years of age, ambitious to learn, requesting that they be sent to college, especially one of a technical or mechanical kind, and willing to work and study. But these boys have not the means to cover their expenses, and to work one's way through a Southern college takes much of the time that should be devoted to hard study.

The Manufacturers' Record appreciates both of these expressions, but it begs to suggest that it would be glad to hear of practical endorsement of the plan in the rolling up of thousands of dollars in the shape of endowments for free scholarships, and that it is exceedingly desirous that the plan should develop the philanthropy of the South. Any money contributed to the cause of practical education in the South coming from any proper sources will, of course, be welcomed, but we should like to see the South show its self-reliance in this respect as in others. We have no doubt that provision made by Southern men for $500,000 or $1,000,000 to be spent judiciously during the next four years for the technical education of the poor white boys, and forming, according to the suggested plan, the basis of a perpetual endowment to that amount, will be matched by money from Northern philanthropy. The thing is, however, for the South to set the pace.

Charleston.

Preceded on Sunday by religious services in which various faiths were harmoniously represented, the formal opening of the South Carolina, Interstate and West Indian Exposition at Charleston took place on Monday at a telegraphic signal from the President of the United States. The ceremonies at the exposition grounds, in the wonderful Ivory City which has come into being in less than twelve months, were witnessed by a large concourse of men and women, including representatives of distant States and communities interested in the success of the undertaking which promises so much for Charleston, for South Carolina, for the South, and for the whole country.

The exposition is notable as having been built without a direct appropriation from the national government, though from that direction there has been hearty co-operation in the effort to have there practically all of the government exhibits which were such an attractive feature at Buffalo. But the exposition at Charleston, which is to remain open for six months, is a result largely of the enterprise and energy of the men and women of Charleston and South Carolina, supplemented by the practical appreciation of other certain States and cities, notably Baltimore and Philadelphia, Maryland, Pennsylvania, New York, Missouri and Illinois, of the wonderful opportunities to be enjoyed in strengthening the trade relations of the United States with the West Indies and the Latin Americas. Some of these have their own buildings, others are represented together with a host of individual exhibitors in the eleven great structures, such as the Textile Building, the Liberal Arts Building, the Palace of Agriculture, the Minerals and Forestry Building and the Negro Building, erected by the exposition company. An idea of the extent of the exposition may be had from the fact that the Cotton Palace, one of the three buildings of the same kind, is 350 feet long, with a dome 150 feet high, and containing more than 50,000 square feet of floor space. This building will probably attract more attention from the thousands of visitors than any other, because in it is a complete display of cotton, its products and the methods of employing them industrially.

In his splendid tribute to the progress of the South Senator Chauncey M. Depew, as orator at the opening of the exposition, said that it is an omen of development and prosperity for Charleston which the people had taken with patriotism, courage and confidence. In his telegram to President Roosevelt announcing the formal opening, President Wagener of the exposition company said that the purpose of the exposition, in itself a remarkable triumph

of American genius, is to illustrate the marvelous industrial and commercial development of the Southern States during the last quarter of a century, and to contribute to the expansion of American commerce in other lands and among the islands of the Southern seas.

The broad-minded courage which conceived the exposition is a guarantee that its purposes will be accomplished.

Interfering With Railroads.

Alluding to a report of a railroad commission in a Southern State in which the statement that "owing to the labors of the commissioners in the past, what is perhaps the best exemplification of government control of railroads to be found in the country" is had in the State, is followed by recommendations of legislation giving the commissioners additional powers, The Railway Age preaches a practical sermon with an excellent moral. It points out that this railroad commission asked for authority to require railroad companies to construct and maintain side-tracks wherever public convenience demands them; that sleeping-car and telephone companies be made subject to the commission, and other measures by which business which the railroad managements are best able to handle to the satisfaction of themselves and the public shall be confused by State interference. The Railway Age contrasts this grasping for power with the satisfactory conditions of affairs in Pennsylvania, with more than 10,000 miles of railroad, and with New York, with nearly 9000 miles, where, as in Massachusetts and Ohio, the State's interest in railroad operations seems to be confined to inspection and supervision, where findings are recommendatory rather than mandatory, and where the relations of the railways and the public are quite harmonious. It contends that in general States which interfere the least with the rate-making and operation business of the railways seem to show the best state of feelings between the railways and the patrons, while those which assume the most power experience the most trouble, and are continually calling for more trouble, and it asks quite pertinently:

> Is there any reason for believing that if the interstate commerce commission were clothed with the desired power of establishing rates for all the railways it would not still be asking for more, or that the transportation business of the country would be better conducted by a government bureau, absolute, autocratic, ambitious, intolerant of dissent, not unmindful of popular favor, than by the railway companies themselves, under reasonable supervision and restraint?

This is rather a timely point made. There is no doubt that the interstate commerce commission will continue to grasp for unnecessary power as long as the commission exists. At the same time there is no doubt that the rapid combination of railway properties in great corporations, which has resulted in a reduction of wasteful competition, the handling of traffic more promptly, efficiently and economically, and the securing of stable rates, which have undoubtedly benefited the public, has been accelerated by the ambitious designs of the interstate commerce commission and its imitators in a number of States.

What It Is?

The Evening Scimitar of Memphis, Tenn., has seen fit, in spite of the cool weather now generally prevailing in the country, to break loose, in the spirit usually manifested in the dog-days or amid the exhilaration following Christmas festivities, and to indulge in a wonderfully constructed but utterly fallacious and misleading diatribe with the Manufacturers' Record as its text. It thinks it believes or believes that it thinks that the Manufacturers' Record is discriminating against Memphis, and expresses that belief in the following vulgar sentence:

> In the paper's lists of new enterprises and building operations Memphis is dismissed with a niggardly paragraph, while the doings of Jim Crow Southern towns are set down at length.

We have been unable to penetrate the fog of nonsensical animosity which pervades the editorial, and consequently have no basis for a reply to what the Memphis Scimitar evidently intended to be a very, very, very severe criticism. It talks about "range of vision," "using eyes," "seeing" and such like. This talk leads us, in the absence of coherence in its editorial, to believe that the Memphis Scimitar has been "seeing things." If such be the case, it has our sincere sympathy. We recommend crushed ice applied to its temples and hot mustard water to its feet until it finds relief. We have been told that that treatment is efficacious in all but the most violent cases. We do not believe that the Memphis Scimitar knows what it is writing about. We believe that it is an unconscious victim of malicious suggestion, not entirely free from petty thrift of rather low order. That is our calm, unprejudiced conviction about the paper, which usually is quite sane in its utterances. In the same spirit of calmness we quote the last paragraph of the Memphis Scimitar's editorial, as follows:

> The Scimitar would suggest that the Business Men's Club take up the matter and sift it to the bottom.

We sincerely hope that the Business Men's Club will do that very thing. We haven't time to do it, as it is a matter which interests the Business Men's Club alone, the matter being to discover why an organization devoted to the development of Memphis should be called upon to act as the agent for expressing petty and impotent spite. The Manufacturers' Record has taken a deep interest in the plans of Memphis business men, and on July 25 last had this to say:

> Within two years, under the auspices of its old Business League, Memphis, Tenn., secured fourteen manufacturing concerns, one of which had a capital of $500,000 and employed 300 men. The effort being made to revive the League in recognition of the value of such an organization as a center of prompt and reliable information for persons seeking to know of the opportunities possessed by Memphis, and of united efforts to induce outsiders to seize the opportunities, ought to succeed. The experiences of other Southern cities, as well as its own, has demonstrated the usefulness of such a body of enterprising men. It ought not to be difficult for Memphis to produce 200 men willing to insure the revival of the League by becoming members. The success of the plan will be welcomed by everybody who knows what Memphis can do and who is delighted at every legitimate undertaking which may spread abroad the knowledge of its potentialities.

The Manufacturers' Record takes the liberty of suggesting to the Business Men's Club that it make use of its columns, with no cost to Memphis or to any individual there, as similar organizations in other cities are constantly doing, instead of wasting its time examining a matter with which gentlemen will not wittingly soil their hands or their minds.

Preliminary figures of the census show that the capital invested in manufacturing industries in Kentucky is $104,030,791, an increase of 30 per cent. since 1890, and that the value of the products is $154,590,069, an increase of 22 per cent.

INDUSTRIAL REVOLUTION IN THE SOUTH.

Impressions of a Trip from Maryland to Texas.

The story of rice and of the development which has followed rice-growing in Louisiana and Texas illustrates very strongly the growth and advancement which is seen throughout the South. Rice is revolutionizing Southwest Louisiana and making a garden spot of a hitherto barren region, oil is creating new conditions in Texas, iron and coal are finally being handled on such a basis as to give to Alabama in the near future its rightful position in the iron and steel development of the world, copper-mining in North Carolina and Tennessee is opening up a vast source of wealth, and so in every part of the South progress is the order of the day. In one place it is cotton manufacturing, in another coal-mining, in another lumbering, in another furniture-making, somewhere else truck or fruit growing, but everywhere there is advancement.

A study of the plans that are now being made for the distribution of Texas oil impresses one that the Manufacturers' Record was correct when, last May, in discussing this situation, it said:

"American genius has been equal to meeting every emergency, and in some way this tremendous undertaking will be handled and the facilities provided for marketing this oil." In the same letter from Beaumont the writer said: "It seems entirely reasonable to look for an early confirmation of the belief that this is probably the most important oil field known to the world. If so, it must become the central point of vast business interests, which, by furnishing the cheapest fuel in the world, will mark a revolutionizing period in industrial affairs throughout this section and in all the Gulf coast and wherever oil can be shipped in tank steamers or barges. It is possible that Texas is to hold a very commanding position in the world's commercial and industrial affairs, and in a short time we shall know, for the new wells will soon tell their story."

The new wells have told their story and have demonstrated that the productive capacity of this region is far beyond what the ablest scientists would have dared to predict. Every day witnesses some new and important move, either the organization of transportation companies for handling the oil, the charter or purchase of oil-tank steamships or contracts for tank cars, or other plans for meeting this the most startling business development of the age.

But returning to rice in Southwest Louisiana, the region made famous by the story of "Evangeline," in 1882 an Iowa farmer, S. L. Cary by name, found in that section some stalks of "Provident" rice—that is, rice which grew spontaneously—and came to the conclusion that rice-growing could be made profitable. He told the Southern Pacific Railroad people of his convictions, but they only laughed at him, for that region was scarcely regarded as worth consideration. It was a lone, prairie country in which it was not believed that $100 worth of freight could ever be developed. But Cary persisted, and never ceased to press upon the railroad people his views regarding what could be done in rice-growing. Finally he induced a few of his former neighbors to come to that section, and by 1886 a few people were proving that rice-growing could be made a profitable business. Duson & Bro. then concluded to establish a town and call it Crowley. After much persuasion they succeeded in inducing the railroad to establish a station at that point, which was then simply a barren stretch of prairie. That was fifteen years ago. Today that barren stretch of prairie has been transformed into a great rice-growing region, representing millions of capital invested in rice lands, in irrigation works and in rice mills. The Southern Pacific passes through a district of rice land which looks to the traveler like the great wheatfields of the West, stretching for miles and miles as far as the eye can reach—a region which was looked upon fifteen years ago as probably the poorest through which that road runs, but which last year furnished to that line, according to Mr. S. F. B. Morse, the assistant passenger traffic manager, 13,000 carloads of rice.

Crowley is now a town of 7000 or 8000 people, with eight rice mills, handling last year a business of about $3,500,000, and 25,000 Western people are settled in that district. Rice-growing, although but in its infancy, has enhanced the value of the land from twenty-five cents an acre fifteen years ago to $75 to $80 an acre at present. In the harvest which has just been gathered 6000 McCormick reapers were at work.

What has been done in Southwest Louisiana is, by the broad-minded work of Mr. Morse and the other officials of the Southern Pacific, now being done in Texas, where new districts equally as promising for rice-growing are being opened up. Around Beaumont and in other parts of the territory tributary to that road there is a great influx of Western settlers, who find in rice-growing a yield of forty, fifty, sixty and sometimes eighty dollars an acre, against anywhere from ten to twelve dollars an acre on the wheat of the West.

* * *

Much has been heard about the oil developments at Beaumont, but the world has probably not yet by any means fully grasped the meaning of that situation. Last May, when the writer in a letter from Beaumont said that there were nine "gushers" which had a possible productive capacity exceeding that of the other 80,000 oil wells in the United States, some carping critics believed that this must surely be an exaggeration. Up to the present time about 100 gushers have been brought in, and the pressure on the last is as great as on the first. The work which has been accomplished in the actual development of that district in the building of pipe lines and tanks and the creation of a market for the oil has probably never been surpassed in this country or in any other in the broad and comprehensive opening up of any new district in oil or in any mineral development. And yet up to the present time all of this has been but the preliminary stage in the real progress of making a world-wide market and creating facilities commensurate with the output of the oil wells of Texas, soon to be followed, judging by all reports that have been made, by oil wells of Louisiana and Alabama. This stretch of territory along the Gulf promises to be not only the greatest source of oil supply for the world, but likewise the center for natural gas, rivaling, if not surpassing, the natural-gas fields of Indiana, and for salt works and other industrial interests on an equally broad scale.

For a long time that section of the

South looked with a jealous eye upon the development of the coal and iron districts, and the people along the Gulf coast seemed to think that the Piedmont and mountain region of the South had been more favored by nature. But it is now an open question if the Gulf coast of the South has not potentialities equally as great as the richest of its coal and iron districts.

* * *

And talking about iron, the writer spent some hours a few days ago traveling with one of the foremost iron men of the United States, thoroughly familiar with the iron and steel conditions of Pennsylvania, with the mining interests of Lake Superior and with the iron and coal conditions of the Southern territory. "What," he was asked, "is your impression of the iron and steel making advantages of the South (and special reference was made to Alabama, which was the subject under discussion), in the light of your experience with the iron interests of all sections?" "In Alabama," said he, "the Almighty has done almost everything, and man has done comparatively little, that is, comparatively little contrasted with the work accomplished in the North and West. Alabama has all of the advantages which have been claimed for it. It has advantages which will make it possible for iron to be made in that State at a lower cost than in any other place known of in the world; but the iron people of the South have not kept up with the progress of the iron industry in the North. Fifteen years ago the furnace business and the furnace practice of the South were on a par with that of the North, but for various causes needless to explain in detail the South has made but little improvement either in the construction of its furnaces or in furnace practice during the last fifteen years, while the North and West have revolutionized their iron-making conditions.

"In cotton manufacturing it is generally recognized that Southern mills are today the best in the world. They have the latest and best equipment, and in that respect are in advance of the best mills in New England, taken as a whole.

"But while the textile mills have been thus leading the procession, the iron-making interests of the South have been lagging behind. On this account Southern iron and steel making has not advanced as it should have done, but the conditions are all there on which to found an industry equal to all that has been claimed for this section. Within the last twelve months a very marked change has taken place. The various iron companies in Alabama have been spending a large amount of money improving their furnaces, adding to their blowing capacity, reducing the cost of their mining operations, and in all ways getting themselves in shape to do a better business and to make iron at a lower cost. But much remains to be done. It is generally known that the new management of the Tennessee Coal & Iron Co. is expending vast sums upon the improvement of that property and securing for its management the ablest experts who can be had, recognizing the fact that the highest talent in iron-making commands what would a few years ago have been considered exorbitant salaries; but salaries count for little if the right men can be had. Under the policy which is now being pursued by the Tennessee Company of getting men who have been identified with the iron interests of the Carnegie Company and other concerns, and whose furnace practice has been the best in the world, the whole iron industry of Alabama will be benefited. The work of that company will be a benefit to every other company, and it may be accepted that the iron and steel interests of Alabama will make much more satisfactory progress in the future than in the past."

* * *

Industrial or technical training is the dominant thought of the South today. The son of the rich man is beginning at the very bottom and learning by practical experience in the cotton mill, at the furnace and in other industries the foundation work for a technical career. He is seeking a broader technical training in the schools of the South, as well as in the best of the technical schools of the North. The poor white boy, with even greater avidity, is turning to technical education as the hope of life. The agricultural and experimental schools of the South, with the mechanical features attached, are crowded beyond their facilities. Though hundreds of poor white boys are paying their way through these colleges by the hardest kind of work, there are at least nine who cannot even secure these advantages for every one who can work his way through in this way. Everywhere the cry is for the expert, and everywhere the cry comes from the poor white boy for the opportunity to become an expert. Men of wealth and of social position, men of the class who for years sought a professional career for their sons, are now endeavoring to turn their attention to the opportunities presented by the industrial activities of the South. Today, whether in the railroad car, whether at a public gathering, at a banquet, or wherever men are discussing the future of the South, technical training is regarded as the South's greatest need and the greatest opportunity of the Southern boy.

R. H. E.

CHARLOTTE: TYPE OF SOUTHERN INDUSTRIAL PROGRESS.

By J. P. Caldwell, Editor Charlotte Observer.

[Written for the Manufacturers' Record.]

The industrial progress of Charlotte is an interesting subject to write about, and, complying with a request from the editor of the Manufacturers' Record for a letter of information on that line, I will submit a few facts bearing upon Charlotte as a type of the cities that represent the growth of the textile interests of the South.

It has been claimed for Charlotte, and with good reason, that it is the textile center of the South. In the city itself are sixteen cotton mills; in Mecklenburg county, of which Charlotte is the county-seat, there are four cotton mills, and within a radius of 100 miles of Charlotte there are 300 cotton mills, which operate nearly 60 per cent. of all the spindles and over half of all the looms in the Southern States. Charlotte is not only the geographical, but the trade and supply center for this great cotton-mill business. The part which Charlotte has taken in the development of the cotton-milling industry has given the city a noteworthy reputation not only in the South, but in the Northern and New England States. It was in Charlotte that the scheme of building and equipping cotton mills by the building-and-loan plan was originated. The first mill built on that plan proved a success, and opened the way for the building of small mills throughout many sections of the South. The building of this mill marked the first stage in the active construction of factories in this part of the State. Up to that time Charlotte had but one cotton mill. New enterprises were organized and new mills constructed in rapid succession until now the city has fifteen textile factories. These are the Ada Cotton Mills, the Orient Mills, the Atherton Mills, the Barnhart Manufacturing Co., the Chadwick Manufacturing Co., the Charlotte Cordage Co., the Charlotte Cotton Mills, the Charlotte Oil & Fertilizer Co. (batting), Crowley's Mills, the Elizabeth Mills, Highland Park Manufacturing Co., Louise Mills, Magnolia Mills, Victor Cotton Mills and Margolius & Co.

These mills represent quite a diversified product, and it is to be said here that there is quite a notable list of diversified industries in Charlotte. The textile and other factories call for supplies of cotton, wood, iron, leather, cottonseed, tobacco, broom straw, marble, etc., which are turned into the markets of the country in the shape of manufactured products from the common to the finest grades. Among the articles of trade and commerce manufactured in Charlotte are: Passenger and freight elevators, pumps and heaters and combined pumps and heaters, wagons, doors, sash and blinds, saw-mills, steam engines, stamp mills, steam hoists, leather belts for a sewing machine or for a Corliss engine of a cotton mill, all kinds of gold-mining machinery, boilers, rubber-tired vehicles, spinning-frames, reels, spoolers, slashers, knitters and shuttle-blocks, loom reeds, card clothing, bed springs, brooms, cigars, shirt, trousers, overalls, coffins, showcases, gray cloths, ginghams, hosiery, towels, sash cord, batting, hammocks, back bands, wadding, hosiery yarns and warps, cottonseed oil, cottonseed meal and hulls, linters, flour, ice, cornmeal, sulphuric acid, sixteen brands of fertilizers, plows, electrical switchboards, power cotton presses driven by belt and also by direct steam pressure, pressed and common brick, complete outfits for cottonseed-oil mills, including every item of machinery; harness, saddles, bridles and collars, candy, plain and fancy; monuments, bookbinding and blank books, ledgers, iron fronts and cornices, mantels, etc.

With the exception of two iron foundries, one cotton mill and several woodworking shops, all these manufacturing enterprises have been established in Charlotte in comparatively recent years. All other lines of business have kept pace with the development of the manufacturing industries. Stores have multiplied, a new population has been steadily coming in, and the city has expanded considerably beyond its original limits, while several very handsome suburban towns have sprung up. By the United States census of 1890 Charlotte had a population of 11,557. The government census of 1900 gives the city a population of 18,091. A census taken by the city, which includes that portion of Charlotte outside the corporation line, and which was not included in the government census, gives the city a population of 27,000. But disclaiming this latter census altogether, the government report shows a very healthy growth. In the ten years from 1880 to 1890, before the industrial development of Charlotte had fairly begun (there was but one cotton mill in the city up to the beginning of 1889), the population increased only 3557. The rapid rate of increase since 1890 is due in a large measure to the development of the textile industry.

The manufacture of cotton into yarns and cloth in Charlotte was followed by the manufacture of cloth into trousers, and there are now five clothing factories in the city. These play a very important part in the industrial life of Charlotte. They employ 1600 people and represent an investment of over $250,000. The five factories turn out in the neighborhood of 2,000,000 pairs of trousers, which find a market all over the United States and Mexico. Fifty traveling salesmen are employed in selling the product of these trouser factories.

It was mentioned at the outset that Charlotte is regarded as the cotton-milling center of the South. This being the case, something more than the mere operation of textile plants in the city would be expected. It must be a construction and supply depot. This requirement is fully met. If a break occurs in any part of the machinery in a cotton mill in this section of the South, Charlotte, in response to a telegraphic or mail order, can ship a duplicate to take the place of the broken part, or a broken piece can be sent here, repaired and sent back to the mill in as good condition as when it was received from the first manufacturer. If a belt breaks or a new belt is needed, the Charlotte factory can furnish it. More than this, if anybody wants to start a cotton mill he can have it designed, built and equipped and put in operation by Charlotte houses. An order for a complete cotton mill can be placed here with all of the facility that a country merchant coming to town would place an order for a bill of groceries or dry goods. The mill builders and equippers of Charlotte will take a contract for a $30,000 or a $1,000,000 mill, design the structure, build it from the ground up, equip it with machinery, wire it with electricity and set it to spinning yarns or weaving cloth. In this particular Charlotte possesses a signal advantage over the Northern centers. There the prospective cotton manufacturer has to go to perhaps a dozen different firms to get the design of his mill, to secure its erection and select its machinery. Here he can drop into either one of the various mill-building houses and place his contract for a complete mill. There is one firm that builds complete oil mills of any desired capacity, ships the parts to the location of the plant, puts them together and starts the mill going. Probably some day Charlotte may begin the manufacture of cotton-mill machinery. Already a five-story factory for the manufacture of certain grades of textile machinery is being erected. The fact is not to be overlooked that this city has a good reputation as an electrical supply center. The houses here supply any kind of an electrical equipment that is likely to be called for.

The reports from the textile centers of the country this year have not indicated any very marked activity in cotton-mill building, but Charlotte has made a very good record during the present year. Two new mills, the Chadwick and the Elizabeth, have been built, and two old mills, the Louise and the Orient, have built additions to their original plant and doubled their capacity. This new mill construction represents an investment of $1,000,000, and adds nearly 45,000 spindles and over 700 looms to the productive capacity of the Charlotte mills. It is to be noted, too, that the new equipment is designed for the finer grade of goods. The Elizabeth will spin as fine as 100 two-ply yarns. All the looms in the Orient Mills are arranged for dobby work, and the product is sateens, lawns, madras and momie cloth. The looms have been working on this finer grade of goods for some time past, and with a degree of success that is gratifying to the managers of the mill. This equipment of the new mills for the finer-grade work is significant of the trend of manufactures in the South.

A healthy condition prevails in the manufacturing and industrial interests of Charlotte, and commercially the city is keeping pace. The retail business has expanded at a gratifying rate, while the growth of the wholesale trade has been surprisingly rapid. Charlotte is now known as one of the largest wholesale centers south of Baltimore in drugs, hardware, dry goods and groceries. In these lines an extraordinarily large business has been built up in recent years, warehouses having been built by some firms to meet the needs of increased storage facilities.

Charlotte's location has been in its favor as an industrial and commercial center. It is known as the midway station between New York and New Orleans. Railroads radiate from it like spokes from a hub, and it is in the midst of a rich agricultural section. The elevation of the city is 760 feet above sea-level, and the climate is about as fine as can be found in the Southern States. It is a counterpart of that of Southern France, the annual mean temperature being 60 degrees, the average for the four seasons being as follows: Spring, 60 degrees; summer, 77 degrees; autumn, 61 degrees; winter, 43 degrees. With location and climate all in its favor, the city has still one other advantage, and a most important one—fine streets and good country roads. To Mecklenburg county belongs the credit of originating the good-roads system which is now being generally adopted throughout the South. I quote from a recent article on this subject:

"The model set by Mecklenburg county has been generally adopted in the South, and practically all the good-roads work now being done is patterned after the Mecklenburg system. Good roads in this county simply mean good streets, for the good roads going out of Charlotte are but continuations of Charlotte's streets, for the construction of roads and streets is the same. The only difference is that outside of the city the roadway is narrower. The hills are cut down, low places graded and steel bridges erected across the streams. These roads now radiate from Charlotte in every direction. Altogether, there are in the neighborhood of 100 miles of good roads constructed in Mecklenburg. The plan is to carry these good roads from Charlotte in every direction to the county line, and this work will soon be accomplished. The effect of good roads on the trade of Charlotte has been distinctly beneficial, and is seen in the increased inflow of cotton and all kinds of produce from the farms. The farmer with a load to haul would rather go fifteen miles over a good road than five over a bad one, and as a consequence they head their teams for Charlotte from all directions when they are within reasonable reach of the good roads. The establishment of the good roads has added to the prosperity of the farmer in many ways, and all over the county there is a noticeable improvement in the farms and their surroundings. The farmers have better stock and more of it, their wagons are of the best and their buggies are rubber-tired, while their houses are painted and all their surroundings made more attractive. For much of all this the good-roads facilities are responsible."

Having followed me this far, the reader will be prepared for the statement that Charlotte presents every appearance of a busy and thrifty city. It lacks nothing in the equipment of a modern municipality. Its streets are broad, graded and macadamized, and the sidewalks are laid in cement, except on the side streets, where they are laid in brick or gravel. There is a good system of water-works, and the streets are illuminated by arc lights. There is an excellent electric street-railway system, which has a double track on the main thoroughfare. The hotel accommodations are good, and the banking facilities are ample. There are four national banks, two savings banks and three building and loan associations. The four national banks have a capital of $775,000 and a surplus of $500,000, while the savings banks and building and loan companies have a capital of $500,000. One-fourth of all the banking capital of North Carolina is represented in Charlotte. The city has two fine office buildings, and a third is in contemplation.

Charlotte is a great cotton-shipping center. There are two large compresses here, but only one is in operation. The cotton traffic is an important factor in the life of the town, and the receipts by wagon are a feature of the daily newspaper reports. The cotton handled annually, including the compress and platform receipts and the mill takings, foots up 300,000 bales. Much of the cotton was previously exported, but the greater part of it is now taken by the mills. The bonded warehouse has given Charlotte a considerable advantage as a cotton market. There are two of these warehouses here, and they have a capacity for the storage of 30,000 bales. The establishment of these warehouses gives the farmer the opportunity to secure cash advances on his cotton, at the same time holding it for a rise in the market.

There are two large cottonseed-oil-mill plants here, one of which was recently sold to the Virginia-Carolina Chemical Co. for a cash price of $425,000. The factories of Charlotte pay out in wages and salaries $1,200,000 a year. This sum being paid to resident people, has a large percentage of circulation in the trade channels of the city. To this is to be added the pay-rolls of the Southern and Seaboard Air Line roads in their freight and passenger departments, which amounts to $30,000 a month, or $360,000 a year.

A peculiarity about Charlotte is that the town has never at any period in its history had what is commonly known as a "boom." The only large land sale in its history was of a suburban tract which is now built up in factories and residences. The growth of the city has been of a steady, substantial character, founded upon a solid business basis, which has precluded any possibility of collapses. The city today presents perhaps the best example of the modern mill and industrial town that is to be found in the South.

Home-Building at Memphis.

With several big contracts ahead the building operations at Memphis during the eleven months of 1901 represent, according to the Memphis Commercial-Appeal, $2,757,239.33. This is $871,288.88 more than the total in such operations in the whole of 1900, and more than five times the total amount of 1897. November has hardly been a good building month, but November this year has shown building to the amount of $137,861, 75 per cent. of which has gone into homes. On this point the Commercial-Appeal says:

"An astonishing evidence of the growth of the city of Memphis is to be noticed in the increase of homes. It is a common and accepted theory that if a man is willing to invest his money in a home, it is because he has sufficient confidence in the city to make it a place of residence not only for himself, but for his posterity. The man who is doubtful about the success of a community and of his ability to remain permanently does not build a home. He rents. When homes are built business buildings follow.

"There has first to be a demand for trade before the markets of trade are built. When a neighborhood is built up and there is shown to be a demand for a grocery, the grocery store follows. The essential growth of the city is therefore to be found in the building of homes, and during the past month this feature of the building record is most notable. In all the history of this city there has never been such a month for building at this season of the year as the November which ended yesterday."

WORKING FOR CONSOLIDATION.

Interesting Movements in the Beaumont Oil Field.

[Special Cor. Manufacturers' Record.]
Beaumont, Texas, November 30.

Private information confirms in large degree the statements made in last week's issue regarding the sale of the Higgins Oil & Fuel Co. The only difference between the actual facts and what was then stated is that Mr. Calhoun of New York, instead of purchasing the Higgins Oil & Fuel Co., has bought all the treasury stock of this concern, which is in round figures $1,000,000, bought at a price pretty close to $66 a share, if not actually at that figure. This company is capitalized at $2,500,000, so that all of its stock has now been issued. But while the controlling interest, it will be seen, has not yet passed into the hands of Mr. Calhoun and his associates, it can be stated positively that negotiations are on foot at this time in a very active manner by Mr. Calhoun or his associates to get at least a sufficient portion thereof to give them the controlling interest. It is quite probable that this matter would have been closed ere now by the Beaumont stockholders of the concern selling out were it not that some slight hitch has arisen. So soon as some agreement on this point shall be reached there is little question but that the controlling interest in this concern will be held by the Calhoun coterie, and if this be true, it is quite likely that all the Calhoun interests will at the proper time be conveyed to the Houston Oil Co. When this is done the Houston Oil Co. will be an equal factor in the field with the Guffey Petroleum Co. The Houston Oil Co. is capitalized at $30,000,000, and it is backed by men who have the financial power to carry out their plans. It can be stated that negotiations are also under way for the purchase of several other of the smaller companies.

Careful and thorough enquiry into the market price of oil results in the conclusion that while no great advance has been made, it is a fact that oil is beginning to advance. As a general statement, it may be given that the market price of crude petroleum today loaded on tank cars at the wells ranges from fifteen to twenty cents per barrel, according to the terms of the contract. There is no improvement in the car situation. The Southern Pacific Company has 150 cars in service, and there are a goodly portion of the Union Tank Line and Waters-Pierce Oil Co. cars in the service, as well as 300 or 400 belonging to local companies. However, this is but a modicum of the number needed.

Oil shipments for the month amount to 2149 cars, containing 340,000 barrels. It is but just to state, however, that the lack of cars is the only cause responsible for twice this number of barrels not having been shipped. This oil shipment for November is about three times the amount of the total tonnage received by the Southern Pacific when it was the only road in the city. News comes from Saratoga district that the Hooks well has been finished as a four-inch well, out of which the oil flows in a steady stream somewhat similar to the flow of an artesian well.

Search for Oil in Florida.

[Special Cor. Manufacturers' Record.]
Ocala, Fla., December 2.

There has been a lull in the oil excitement in this State, but a systematic search for it has all the while been going on, and the belief of its existence in this section is as strong as ever.

A syndicate has been formed and the preliminary work for the sinking of test wells has commenced. The place selected for these trial wells is three miles south of Sumterville, and the work is in charge of Mr. John R. Martin of this city. It is the purpose of the company to sink a number of test wells to the depth of from 100 to 300 feet to ascertain the most favorable place in which to sink the well for a "gusher." If place is definitely ascertained, they will bore to a depth of 3000 or 4000 feet if the conditions justify them.

Dr. Otto Grothe, a well-known German chemist of this city, in company with Messrs. John W. Pearson, John R. Martin and Thomas Sexton of this city, and Mr. Yoree Nelson of Sumterville, recently visited the spot where the preliminary work is being carried on. Dr. Grothe, it is said, was well pleased with the surface indications, and collected natural gas, which he will thoroughly test in his laboratory in this city, and accompany same with his expert testimony.

Mr. John W. Pearson, who is at the head of the syndicate named above, is a resident of Ocala, and is a most successful phosphate operator. In a little while the question will be definitely determined as to whether or not petroleum exists in Florida.

Kentucky Oil Fields.

[Special Cor. Manufacturers' Record.]
Somerset, Ky., December 2.

The oil development in the Kentucky and Tennessee field has lost none of its activity. The development in Pulaski county, east of Somerset, is going on steadily, and the prospects of the Pulaski field are growing brighter daily.

The development in the Sunnybrook district is proceeding rapidly, and the old wells are holding up well.

The Cumberland Pipe Line Co. has ordered several new tanks for the Somerset "tank farm," and the appearance of this city is about that of Oil City or Sistersville.

J. P. Hornaday of Somerset, Ky., has recently purchased for Eastern parties 5000 acres of choice territory in Wayne county. He will be interested in a new oil company which is forming, which will put down several wells on Rock creek, in Wayne county. Mr. Hornaday and associates are going to open an oil exchange in Somerset, Ky.

OIL NOTES.

Facts About Petroleum and Its Uses.

It is announced that the Holland capitalists who furnished much of the capital for the construction of the railroad line connecting Kansas City and Port Arthur are contemplating the building of tank steamers for a line to carry from Port Arthur to Europe.

The department of finance of the Greek government has recently given an order to an American firm to send at once a cargo of 70,000 cases of petroleum and an additional special order of 2400 cases for use in government lighthouses and beacons. United States Consul F. W. Jackson at Patras, referring to this order, states that it represents 720,000 gallons, and is much larger than usual.

A dispatch from Galveston, Texas, states that the Southern Pacific Railway

Co. now has about 150 locomotives using oil for fuel, and that the company is consuming about 75,000 barrels per month. As already stated in the Manufacturers' Record, a number of other companies are equipping locomotives with oil-burning apparatus. A plan for using oil in fuel compounds is being proposed, the compound consisting of oil and sawdust mixed to form a solid substance.

EXPANSION IN OIL.

Suggestions of Its Wonderful Possibilities as Fuel.

The New York Commercial, which has shown alert and intelligent interest in the petroleum developments in Texas, has published recently two articles quite suggestive of the immediate future of the oil as a fuel. Referring to negotiations for a shipment of 8000 tons of Texas petroleum to London as a matter of tremendous importance, the Commercial says:

"If tests shall prove that this oil can be utilized in England for fuel purposes as easily as its producers contend, and if it can be transported safely and cheaply, the chances are that it will speedily enter into extensive use not only in the British islands, but on the Continent as well.

"One of the most, if not the most, serious problems confronting European industry today is that of fuel. The coal measures of England, Wales, Belgium, France and Germany are in a process of rapid exhaustion. To this condition is added the influence of labor combinations, which, by curtailing mining operations, have twice within the last five years greatly crippled manufacturing enterprises by depriving them of needful fuel supply.

"Another fact of immense importance is the absorption of coal by the maritime nations of the Old World for naval purposes. Great Britain, France, Germany, Russia, Italy and Austria are all stocking their naval stations throughout the world with enormous supplies for readiness against possible emergencies, and this policy, together with the vast fuel needs of expanding fleets in actual commission, is taking an increasing portion of the mine output which would otherwise have been available for commercial purposes.

"It is not strange, therefore, that European manufacturers should look to America as the future source of their fuel supplies. Experiments to ascertain the value of Pennsylvania, Maryland, Virginia and West Virginia coals for steam-making purposes are already under way in several foreign countries, and the success of these tests, which is hardly to be doubted, will in all likelihood result in the placing of valuable contracts with American coal producers. Mexico, whose railways have until now used English coal, is about to consult her own interests by drawing her supplies from the United States, and Brazil and other South American countries are likely to follow her example.

"If, however, Texas has in her vast petroleum deposits a fuel commodity that is approximately equal to coal in economic value and considerably cheaper in cost, it is within the bounds of possibility that the prolific development of her resources may play a highly important part in the industrial affairs of the world. The notion that her oil supplies are inexhaustible is, of course, the veriest nonsense, but it is clear, even at this early stage of operations, that they are so great that they will constitute a powerful factor in the world's fuel problem for many years to come.

"In view of this the results of this experimental shipment of 8000 tons of her crude petroleum to Europe will be awaited with eager interest throughout the industrial world."

In another editorial it says, referring to the use of oil as fuel in this country:

"The efficiency and economy of fuel oil have been demonstrated to the satisfaction of intelligent engineers and manufacturers on the Pacific coast. The oil fields of California have proved the salvation of the Golden State, assuring her a rank of first importance among the manufacturing States of the Union. Were it not for fuel oil she might never—or, at best, only after many and long years of tribulation—have arisen above the mining and agricultural stage. But with the fuel question solved, as it now is, there are no heights that California in particular, and the Pacific coast in general, may not attain.

"Texas seems as yet not wholly to realize the economic importance of her 'gushers' and her pumping wells—what wealth is hers if her energies are but wisely directed. Her greatest opportunities lie in encouraging the growth of manufacturing, more especially the establishment of new mills to spin and weave her enormous cotton crop. The enactment of liberal laws that encourage and protect manufacturers with ample capital will do more to place Texas in the position to which her resources and opportunities entitle her than anything else. True, some efforts have been made in this direction, but not with half the vim and vigor required by the exigencies of the case. The consumption of a large portion of fuel oil within the bounds of Texas, or in other sections of the Southwest, by manufacturers and transportation companies would prove of greater advantage to the States and to the people than the seeking of unwilling markets for crude oil, and would be along the line of least resistance."

Birmingham Iron and Steel.

[Special Cor. Manufacturers' Record.]
Birmingham, Ala., December 3.

In the iron market the past week the demand was less active. Medium and small orders held the boards. There were several orders for 1000-ton lots. There is very little, if any, diminution in the calls for early delivery, but conditions continue to be anything but favorable to this class of buyers; in fact, the first quarter of 1902 is so well sold up that the furnace men are switching all orders possible into the second quarter. And it will require favorable furnace conditions to comfortably meet delivery requirements for the first quarter of 1902. Shipments are limited to the facilities offered by the railroads. The falling off in export shipments is very noticeable, and it is also of interest to reflect that in spite of this the home demand has been sufficient to deplete stocks to almost bare furnace yards. Owing to the growing efforts to convert the crude material into finished product, our shipments of pig-iron commencing in 1902 will probably show a decrease hereafter. Market quotations are for No. 2 foundry $11.50; No. 3 foundry $11, at which price lots of 1000 tons were taken. No. 4 foundry was sold at $10.50, and it also went in lots of 1000 tons. No. 2 soft went at $11.50 when it could be had. Gray forge was sought after at $10.50, and the bulk of sales was at that value, though in a small way some was placed at $10.75. Stocks for November, it is anticipated, will show a further material decrease over the October report, and tend to a further hardening of values. Conditions do not yet favor any increase in production this month.

The demand for steel continues unabated and in amount beyond capacity to supply, though the prices are sufficient to stir effort. For December delivery, now practically spot delivery, there is no room for new business. Orders in amount all that the mill cared to book into 1902 are registered, and will keep it busy for some time to come. The most important order accepted was for 25,000 tons of sheet plates. The price is hidden between the covers of the order-book, and revealed only to the faithful. The steel mill is not yet working to full capacity. Efficiency has rewarded intelligent effort, and capacity is being gradually increased.

Some New York parties, whose names are withheld, last week completed a deal for acre property at North Birmingham, and announce that they will at once build 100 coke ovens. A battery of coke ovens there would hardly be confined to coke-making, and the thought is suggested of a by-product plant.

In coal and coke the prompt supply of cars is the key to the situation.

J. M. K.

West Virginia Notes.

[Special Cor. Manufacturers' Record.]
Wheeling, W. Va., December 4.

The Little Kanawha Railroad, extending from Parkersburg eastward, has determined to build its line ninety miles further into the coal field. A new survey is to be made along the present road in order to remove the kinks, rearrange the tracks and reballast them. President Jackson V. Blair announces that Parkersburg will be the company's headquarters from now on.

Architect Leiner, Peabody Building, Wheeling, has been directed to draw plans for thirty houses, each constructed for two families, to be built at Pleasant Valley, a suburb. The cost of the improvement will be about $90,000.

The Fairmont Development Co., after an existence of ten years, has decided to wind up its affairs, and has authorized the sale of its property in lump. The town grew so fast of its own accord that a development company was found to be a superfluity.

It is generally understood that all West Virginia property of the South Penn Oil Co. is shortly to be turned over to the Carter Oil Co., which is closely affiliated with it.

Cameron, W. Va., will next week advertise for bids on the construction of a complete water system.

The Clarksburg Board of Trade is negotiating with outside parties for the erection after January 1 of a large candy factory. Address Secretary Bowen.

James F. Cook, William A. O'Neill, John P. Hart, George A. Waters and James L. Gettings, all of Fairmont, have organized the Cook & Hart Coal Co., and will open works, installing machinery, etc., at Mt. Clare.

A Sugar-Growing Enterprise.

The State of Florida has been the center of a diversity of enterprises, and has attracted the attention of foreign as well as American capitalists by reason of the great extent of its natural resources. It has become a winter home for many thousands of people; its area adapted for fruit and truck growing is supporting a large population attracted from various portions of the country; its tobacco fields and factories are yielding a very profitable revenue, while its lumber and phosphate industries have assumed large proportions.

Although Florida contains a large acreage especially suitable for growing sugar-cane, as yet this branch of agriculture is practically undeveloped. It has remained for a syndicate of Baltimore and Northern capitalists to take advantage of the opportunities, and the Florida East Coast Commercial Co. has been organized for this purpose. The company controls about 5000 acres of land in Volusia county adjacent to the Florida East Coast Railroad and a navigable branch of the Indian river. It is estimated that the tract contains at least 20,000,000 feet of cypress, oak, hickory and other valuable woods, and the company proposes erecting a saw-mill upon the property at an early date. The company intends to engage in the cultivation of sugar-cane and the manufacture of the raw product on an extensive scale, as reports have been secured from experts which warrant the carrying out of plans on a broad basis. According to the statement of Mr. R. E. Rose, president of the Florida State Agricultural Society, ten barrels, or 400 gallons, of the syrup have been made from an acre of the cane grown on ordinary pine land, which realized from fifty to seventy-five cents per gallon, even in the local market. Converted into sugar, the receipts would increase proportionately.

The company includes a number of well-known business men of Baltimore, Mr. George F. Jones being president; Mr. Frank H. Callaway, vice-president, while the directors include Messrs. O. B. Zantzinger, R. M. Miller, M. R. Creighton, William W. Dix and A. Frank Gilbert. Mr. Conway W. Sams, judge of the Appeal Tax Court of Baltimore, is general counsel.

For a Good Hotel.

Editor Manufacturers' Record:

I do not know that there exists a better opportunity in all the South for the profitable investment of capital than in a hotel property in Montgomery. A hotel costing $250,000 or $300,000 in this city could be leased tomorrow for a term of ten or fifteen years at 10 or 12 per cent. upon the investment. The Louisville & Nashville Railroad, the Mobile & Ohio, the Western Railway of Alabama, the Plant system, the Central of Georgia and the Seaboard Air Line, in addition to several local lines from various points of the compass, all converge here, and make a railroad center of Montgomery second only to New Orleans in all the South. There are forty-two trains coming and going daily from the passenger station, none of which are suburban trains, and all have schedules arranged most fortunately for Montgomery hotels, making it possible for travelers upon all lines to reach this city at night, spend the night here and go out early the next morning to any point of the compass desired.

A modern hotel situated at Montgomery would be enabled to cater successfully to a large number of tourists from all parts of the country, who annually visit Florida and the coast points in the fall, and returning in the spring, would stop over in Montgomery for a month or longer if a desirable hotel could secure for them home comforts where they could enjoy the genial climate, numerous recreations, historic scenes and modern Southern society, without being banished from the luxuries of a good theater and the modern facilities for quick transportation.

L. L. GILBERT, Secretary,
Commercial and Industrial Association.
Montgomery, Ala.

Opportunities for Industries.

In a letter to the Manufacturers' Record Mr. L. D. Snook of Spring Place, the county-seat of Murray county, Georgia, writes that as the first railroad in the county is nearing completion, and as the Charleston, Augusta & Chattanooga Railroad is assured, both passing through Spring Place, there are opportunities there for a spinning and knitting mill, a cottonseed-oil mill, a broom factory, a chair and furniture factory, a crate and basket factory, brick, tile and pipe works and a general machine and repair shop. Mr. Snook writes that the raw material for most of these undertakings abound

nearby; that the county is free from debt; that taxation is low, the water is good and the climate healthy.

A Bit of Enterprise.

With commendable enterprise the Little Rock Board of Trade is circulating a broadside circular showing photographically the location and extent of the Baring Cross Shops being built at Little Rock by the St. Louis, Iron Mountain & Southern Railway Co. The work was begun on April 22 last, and is to be completed by April 1 next. Ten acres will be under roof of the following buildings: Locomotive erecting, boiler and machine shop, 135x529 feet 5 inches; blacksmith shop, 90x221 feet 5 inches; power-house, 81 feet 5 inches by 121 feet; office, 50x100 feet, two stories and basement; coach-manufacturing and repairing shops, 100x199 feet 5 inches, two stories; paint shop, 100x199 feet 5 inches; planing mill, 80x201 feet 5 inches; freight-car repair shop, 70x300 feet; paint storage room, 30x50 feet and 40x22 feet, T shape; oilhouse, 50x70 feet; lavatories with washrooms 45x22 feet. The brick smokestack of the plant is 154 feet 5 inches high. Mr. George H. Webb is the engineer in charge of the work, and the construction is in charge of Mr. E. Fisher.

Development in Tennessee.

According to a dispatch from Knoxville, Tenn., Pennsylvania lumbermen have become interested in a railroad and manufacturing project in Eastern Tennessee, the railroad to be built along the Little river valley, between Bushnell, N. C., and a connection with Knoxville. The lumber company is capitalized at $150,000, and it is stated has secured options on 60,000 acres of timber land in Sevier county, which will be reached by the railroad. In addition, arrangements have been made to build a tannery under the title of the Schlosher Leather Co., which will represent an investment of $250,000 and be located in Blount county. This tannery is already under construction on a site selected at Walland, Tenn. W. B. Townsend of Clearfield, Pa., and C. S. Walton of Pittsburg are among the promoters.

A Steel-Sheet Mill.

Additional impetus will be given the increasing industrial importance of Cumberland, Md., and its vicinity by the equipment of the steel-sheet mill which has been definitely announced during the week. The new plant will be established by the Maryland Sheet & Steel Co., just incorporated under New Jersey laws with capital of $100,000, and the mill's annual capacity will be 9000 tons of sheet steel. The Crucible Steel Co.'s plant in South Cumberland has been purchased at $65,000, and will be remodeled and improved with modern machinery to comprise the new plant. Howard H. Dickey is president and manager; Harry E. Weber, secretary, and A. F. Baumgarten of Pittsburg, Pa., is vice-president and purchasing agent.

To Enlarge Its Steel Mill.

A dispatch from Parkersburg, W. Va., states that the Parkersburg Iron & Steel Co. has contracted for the erection of an important addition to its large steel mill, now nearing completion. The addition is to be a forge mill to involve the expenditure of about $100,000. Messrs. Wm. B. Scaife & Sons of Pittsburg, Pa., have contract to manufacture and erect structural frame buildings for the plant.

A contract for 2500 tons of zinc for export to Antwerp will be filled this year from the Joplin (Mo.) district.

RAILROADS.

[A complete record of all new railroad building in the South will be found in the Construction Department.]

ILLINOIS CENTRAL ELEVATOR.

Interesting Features of the New Structure at New Orleans.

The Illinois Central Railway Co.'s new grain elevator at New Orleans requires a very substantial foundation, on account of its capacity—1,500,000 bushels. It will cover an area of 100x330 feet, and will be 165 feet in height. To provide a suitable foundation concrete is used in large quantities, being laid on a subfoundation consisting of clusters of 40-foot piles. The masses of concrete form bases for the framework, and it is calculated that about 3500 cubic yards will be used in all. The foundation of the power-house will also consist of the same material. An interesting fact in connection with the material is that the cement of which the concrete is made has as its basis furnace slag. Several plants for manufacturing this form of cement are now in operation, one being located at the Maryland Steel Co.'s works at Sparrow's Point, and one at the works of the Illinois Steel Co.

In addition to its storage facilities, the elevator will have machinery for conveying grain directly from cars to vessels, and will be provided with four systems of conveyors for reaching the wharf. Along this will be built a single line of conveyors 2000 feet in length, in four sections of 500 feet each. The sections will be fitted with marine spouts having a loading capacity of 20,000 bushels each an hour. In transferring the grain from the cars to the building it will be taken out by automatic steam shovels run into "sinks," each having a receiving capacity of 10,000 bushels per hour. The sinks, which are located under the elevator, are connected with a system of spouts which will convey the grain into storage bins or conveyors as desired. The apparatus for weighing the grain will comprise fourteen sets of scales, each set having a capacity for 16,000 bushels.

The power-house will have a capacity for producing 1200 horse-power utilized by two Corliss engines. Fire protection will be provided by two tanks located on the roof of the elevator and connected with a system of pneumatic sprinklers. The elevator is equipped throughout with a pneumatic sweeping system.

"MACHEN'S FOLLY."

Why a Worker for the South Can Now Afford to Laugh.

For several mornings past a prosperous-looking man has seated himself on the railing outside the Broad-street door of J. P. Morgan & Co.'s office and watched with intense satisfaction the building of the new Stock Exchange across the street. He was E. C. Machen, a Southern railroad president, and he feels a personal interest in the marble used in the new building. He says that if he has no other monument, the new Stock Exchange building will stand for many years as an answer to the gibes of "Machen's folly."

"I spent sleepless nights," said Mr. Machen, with his eyes on the new building, "in getting the railroad built that hauls that marble from the quarries in Georgia that were opened fifteen years ago. I have now no pecuniary interest in the railroad or the quarries. We built the bridges of this road on marble piers, and we ballasted the road with marble. The newspapers referred to it as 'Machen's folly.' There was not a man spoken to by me on the subject up here that did not seem to look upon me with pity when I predicted that some day New York would use that marble as building stone. With the high freight rates of those days such a prediction did seem preposterous, but every block that goes into that building makes good my prophecy. It is a great satisfaction for me to sit here and watch those blocks going into place, and to know that they have been hauled over 'Machen's folly.'"—New York Sun.

A 90-Mile Line.

The railroad mileage in Southeastern Missouri is to be increased by the construction of a line from Cape Girardeau to Crystal City, a distance of ninety miles. The Cape Girardeau & Northern Company has been formed to promote the undertaking, and in a letter to the Manufacturers' Record Mr. E. F. Blomeyer, secretary of the company, writes that surveys are under way with a view to letting contracts at once. The president of the company is Mr. Newman Erb of New York, who is also president of the Southern Missouri & Arkansas, extending from Cape Girardeau to Hunter, Mo., where it connects with the St. Louis & San Francisco system. It is reported that the Cape Girardeau & Northern will be a portion of the Southern Missouri & Arkansas when completed.

Williamsburg to Yorktown

According to a statement of Mr. O. D. Jackson of Norfolk, Va., work is to begin at once upon the railway system to be built on the Virginia Peninsula between the James and York rivers. Mr. Jackson states that he and others have secured the charters of the Yorktown, Poquosin & Hampton and the Jamestown, Williamsburg & Yorktown railways, and have completed preliminary surveys for the line between Yorktown and Hampton. Surveys are to be made immediately along the route between Hampton, Jamestown and Williamsburg. The total estimated mileage is forty-five, while a branch line about twenty miles in length will also be built. Mr. Jackson is at the head of the O. D. Jackson Co. of Norfolk.

Fairmont to Clarksburg.

Another important electric line will be added to the mileage in West Virginia within the next few months, connecting Clarksburg and Fairmont. Henry Schmulbach, president of the Fairmont & Clarksburg Electric Railroad Co., which is promoting the project, informs the Manufacturers' Record that the entire length of the line is thirty-four miles, of which twenty-two miles remain to be completed. Power-houses have been constructed at Clarksburg and Fairmont, and tracklaying is to be completed as soon as possible.

A Kentucky Project.

In addition to the plan to build a system of electric railways in Northern Kentucky, being promoted by Hon. George B. Davis of Detroit and local capitalists, Mr. Younger Alexander of Brooksville, Ky., a well-known railroad promoter, is interested in lines between Georgetown, Lexington and Paris. In a letter to the Manufacturers' Record Mr. Alexander states that the road between Georgetown and Lexington, a distance of twelve miles, is now being constructed, and surveys are being made between Lexington and Paris.

Another Texas Line.

The details of the plan to complete a railroad between Winnsboro and Marshall, Texas, have been furnished the Manufacturers' Record by Mr. L. E. Walker, president of the Texas Southern Railway Co. Mr. Walker writes that the company owns three different lines about sixteen miles in length, and has let contracts to complete the route between the towns mentioned. A junction will be formed with the Missouri, Kansas & Texas at Winnsboro, and with the Texas & Pacific at Marshall.

Railroads in Kentucky.

According to the report of the State railroad commission of Kentucky, the assessed value of railroad property is $52,432,000; 3099 miles are in operation, compared with 3055 a year ago. The new railroad mileage, according to the report, consists of seven and one-half miles of electric line not counted in the computation, the Ohio & Kentucky Railroad, twenty-five miles in length, and the Kentucky Western Railroad, a 19-mile line in Webster county.

$2,000,000 for Improvements.

The report that the Gulf & Ship Island Railroad will carry out additional improvements at Gulfport, Miss., is confirmed in a letter from Mr. Thos. P. Hale, in which he states that the company is prepared to expend at least $2,000,000 upon the harbor and docks at this terminus. Improvements are also being made to the railroad at various points.

Railroad Notes.

The last report issued by the Northern Central Railroad Co. shows that the gross earnings for the ten months ending October 31 increased $565,000, and the net earnings $335,000, the increase in net earnings for the month of October alone being $155,000 and the gross earnings $202,000.

The union station of the Chesapeake & Ohio and the Seaboard Air Line systems at Richmond has been placed in service. The building and approaches, which have already been described in the Manufacturers' Record, are among the finest in the United States, and represent a cost of over $2,000,000.

The United Railways & Electric Co. of Baltimore announces that it has decided to considerably increase its power, and has awarded a contract for four engines, representing 3000 horse-power each. The company will also let contracts for electric generators. The machinery will be installed at its main power-house.

The Carolina Northern Railroad has been completed between Marion, S. C., and Lumberton, N. C., and passenger trains have been placed in service. This road, which has already been described in detail in the Manufacturers' Record, is forty-three miles in length. In connection with it a report is current that it will eventually become a portion of the Seaboard Air Line.

A dispatch from Richmond, Va., is to the effect that the Seaboard Air Line has moved the headquarters of its first division from Raleigh to Richmond, and by this change the office of the superintendent, trainmaster and train dispatcher will be transferred to Richmond. It is stated that the force of workmen at the shops at Raleigh will be considerably increased and additional machinery installed.

It is announced that the Chicago, Milwaukee & St. Paul system has decided to establish an agency for purchasing lumber at some point in the Gulf States, probably at New Orleans, also an agency for purchasing iron at Birmingham. This company utilizes about 70,000,000 feet of lumber a year for rolling stock and other purposes, and believes it can be purchased more cheaply in the Gulf States than elsewhere.

FOREIGN TRADE.

This department is designed to set forth opportunities for the extension of the trade abroad of American manufacturers, and to record facts about the rapidly-developing commerce of the South.

Working Up Foreign Trade.

A. Descher of 33 Cloudesley Square, Islington, London, writes to the Manufacturers' Record referring to difficulties in introducing American goods abroad as follows:

"A manufacturer does not mind to pay for showroom, office expenses, etc., when his goods are known to the trade through the work of his agent and his agent's expenses, but he is afraid to spend a small sum when the agent wants it most. The agent must run the risk as well with his own money as with his time and work, which surely is not fair. A manufacturer knows in which articles he is able to compete and what profits he makes on them. He ought to put his agents in such a position that they do not spend their own money in the first year, when the commission cannot possibly be very high if they are not favored with exceptional luck. If an agent sees that he is well looked after by his firm he puts all his energy in the business, otherwise he cares more for those agencies which pay best; this is quite natural.

"Another item which makes the sale of American goods difficult is that nearly all American manufacturers sell their goods f. o. b. American port, instead of selling them c. i. f. English port. Besides, they want payment before a customer has seen the goods. Of course, this method prevents more or less a claim, but it very often prevents business, as nobody likes to pay for goods which cannot be verified. A conscientious and straightforward manufacturer need not be afraid of any claim, especially if he is well represented on this side."

For a Cork-Helmet Factory.

Khetter Mohun Dey & Co. of 45 Radha Bazar street, Calcutta, India, have started a new factory for the manufacture of cork helmets. They require a complete set of machinery of the latest type to equip the factory, and write to the Manufacturers' Record in order to get into communication with American manufacturers of the following:

A machine for cutting and splitting cork into sheets varying in thickness from one-thirty-second to one-eighth of an inch.

A machine for cutting the sheets to shape required.

A machine for beveling the edges of the sheets for joining them together.

A machine for hat molds or blocks for drawings to be supplied.

A machine for hat presses to hold movable blocks and dies to press the cork foundation to shape.

The firm is also interested in hand machines which may be easily worked by a girl or woman for the manufacture of knitting and hosiery, braiding, galloon and ribbon, lace, and in looms for making plain domestic and Jacquard. The firm desires quotations for roofing papers, which have a great chance in India.

Yeast for Europe.

In a letter to the Manufacturers' Record Mr. W. R. B. Lockie of 17 South Castle street, Liverpool, who is interested in patents of electrolyzing apparatus for the production of bleach and of an automatic shuttle, writes that he would like to get into communication with American manufacturers of dry yeast, as he believes that there would be a great market for it in Europe, where the old-fashioned moist yeast cake alone is used. He thinks an yeast capable of retaining its properties until moistened and independent of thermal conditions would be in demand abroad. Mr. Lockie also believes that there would be a great market in England for American boat oars, first, because of the high quality of the wood in them and their splendid finish, and because they are turned out by machinery.

American Exports to Greece.

According to the report of one of the United States consuls in Greece, the increase in sales of American agricultural machinery in this country have quadrupled within the last two years, in spite of competition of English manufacturers. It is also stated that the sales of American oil are increasing rapidly, a recent order being given by the Grecian government which will represent fully 70,000 cases. American oil was preferred to the Russian product for the reason that it was considered of a higher grade

American Cottons in Turkey.

A considerable quantity of American cotton goods has recently been sold in Turkey in competition with English fabrics, the prices being seven and one-eighth cents a yard, as compared with ten cents for the English goods. The prospects for increasing American export trade to Turkey in this respect are said to be excellent.

Cars for Mexico.

At New Orleans 210 freight cars are being loaded upon steamships for Mexico for use on the Tehuantepec Railroad. The cars are the product of the works at St. Charles, Mo., of the American Car & Foundry Co., which has also supplied cars for railroads in Venezuela and other Latin-American countries.

Notes.

Exports from Pensacola in November represented a value of $2,039,500, an increase of $200,000 over those of any other month in the history of the port.

A recent shipment of rolling stock to Cuba was made by way of Mobile, and consisted of cars for handling sugar-cane. They were built at Chattanooga, Tenn., and represent part of an order for over 100 of these cars.

Greinitz Neffen, a wholesale and retail hardware merchant of Trieste, Austria, is anxious to receive samples of American wire and nails, with prices f. o. b. New York. Mr. Luigi Zuculin of Trieste also is anxious to have offers from America to supply cotton waste.

Morrison Bros. of 122 London Wall, London, E. C., writes to the Manufacturers' Record that in view of the approaching coronation ceremonies they would be glad to handle good American novelties, small and reasonable in price, and real novelties. They suggest that samples should accompany offers.

Reported Coal-Property Transfer.

According to a dispatch from New York, the Norfolk & Western Railroad Co. has made arrangements to control the interests of the Pocahontas Coal & Coke Co., and will purchase the property of the company for $20,000,000, paying this amount in 4 per cent. bonds of the Norfolk & Western system. The Pocahontas Coal Co. represents a combination of mining properties in West Virginia, recently referred to in the Manufacturers' Record. It is understood that the Norfolk & Western will conduct its operations through a subsidiary organization. The property is estimated to contain about 300,000 acres of coal land.

TEXTILES.

[A complete record of new textile enterprises in the South will be found in the Construction Department.]

Cotton Mill Wanted.

The management of a cotton plant in the North writes to the Manufacturers' Record that it is desirous of forming a connection with a Southern plant for the production of fabrics under twelve and one-half cents, with a view to combining the two plants in one in the best locality in the South. The writer will co-operate with any enterprising community in building a plant for its purposes.

The Cotton Movement.

In his report for November 29 Col. Henry G. Hester, secretary of the New Orleans Cotton Exchange, shows that the amount of cotton brought into sight during the first ninety days of the present season was 4,716,762 bales, a decrease under the same period last year of 27,452 bales; exports were 2,474,363 bales, an increase of 154,963; takings by Northern spinners 666,405 bales, a decrease of 26,803; by Southern spinners 512,843 bales, an increase of 91,539 bales.

Textile Notes.

Endeavors will be made for the erection of a cotton factory at La Porte, Texas, and G. E. Kepple will lead the movement.

Messrs. D. C. Giddings, Jr., R. A. Schurenberg and F. W. Wood of Brenham, Texas, will organize a company for the erection of a cotton mill.

Clayton (N. C.) Cotton Mill has decided upon an increase of capital from $100,000 to $120,000. This company is operating 5000 spindles on yarn production.

Dwight Manufacturing Co. of Alabama City has commenced the erection of a one-story brick clothroom 100x186 feet and of a cloth-storage room 50x100 feet.

Charter has just been granted to the Lumberton (N. C.) Cotton Mills, capitalized at $75,000. The plant was completed recently, and has 5000 spindles for yarn manufacturing.

Lavonia (Ga.) Cotton Mills will double, it is reported, its plant of 2500 spindles, which just began operations some weeks ago. The present building would accommodate the increase.

The work on the Washington Mills at Fries, Va., continues to progress steadily, eighty-five cotttages for the operatives having just been completed. Each cottage is located in a quarter-acre lot.

Eastern Manufacturing Co. of Huntsville, Ala., has put in operation one department of its $50,000 weaving plant, and the other departments will start up next week. Fine print cloth is the product.

William J. Magee of New Iberia, La., has addressed the Chamber of Commerce at El Paso, Texas, relative to establishing a knitting mill at El Paso. A $15,000 plant to work both cotton and woolen yarns is contemplated.

It is stated that a cotton manufacturer of Prussia is conferring with the W. T. Weaver Power Co. of Asheville, N. C., relative to the establishment of a mill to be supplied with power from that company's plant, now building.

Anchor Mills of Huntersville, N. C., operating 4100 spindles on yarn production, has announced its intention of increasing capital stock from $50,000 to $200,000. Probably this step is taken for the purpose of enlarging the plant.

Texas Hosiery Manufacturing Co. of San Antonio, Texas, has commenced operations with six machines in position, although there is room for 140 in all, and to this number it is proposed to eventually increase. G. B. Thomas is manager.

It is rumored at Ettricks, Va., that the Swift Creek Cotton Mills, idle for nearly a year, will resume operations soon under the superintendence of W. L. Robinson, who resigns the same office with a mill at Pocahontas, Va., to come to Ettricks.

John Mulholland and others of Kansas City, Mo., contemplate erecting a cotton factory in their city. It is stated that cotton-growers of Oklahoma Territory will be among those interested, and that cotton from that country will be used in the mill.

It is announced that a contract has been definitely closed securing for location at Huntsville, Ala., the cotton mill recently mentioned as proposed. This will be the tenth mill in the city, and land for a site has been purchased. Particulars will be announced soon.

A meeting of the stockholders of the Barnesville (Ga.) Manufacturing Co. will be held on December 16 to discuss the financial condition of the company and consider arranging a reorganization. The company spins hosiery and underwear yarns, and operates a dyeing and bleaching plant in connection.

It is proposed to establish a knitting or a yarn mill at Richmond, Va., a building to be used that has been built for textile-mill purposes. An experienced manufacturer is sought by the projectors to become interested in equipping with the necessary machinery. For further information address "Manufacturer," Box 901, Richmond, Va.

Messrs. J. Irwin Bitner and H. J. Crosson of Hagerstown, Md., who leased the Valley Hosiery Mills at Mechanicsburg, Pa., will remove their machinery to Hagerstown, there to enlarge the plant. A building will be erected and machinery added to increase capacity daily to 500 dozen pairs of hosiery. Lace goods and fine hosiery will be manufactured.

Atlanta (Ga.) Knitting Mills has decided to double the capacity of its plant by duplicating the present equipment of machinery. This action was taken at a meeting of stockholders during the past week. The mill now has fifteen knitting machines, thirty sewing machines, etc., in operation, and finds its capacity inadequate to demands for the product.

The court has ratified the sale of the cotton-mill property of the Great Falls Manufacturing Co. at Rockingham, N. C., to D. L. Gore, recently reported as having bid $37,245 for the property. Mr. Gore is of Wilmington, N. C., and it is said that he intends to expend about $40,000 for improving the plant, and is to then put it in operation. The spindles number 4500 and the looms 134.

A similarity of titles caused an error in our recent mention of the consolidation of two knitting mills at Chattanooga, Tenn. It was the Ocoee Hosiery Mills of Chattanooga, Tenn., and the Richmond Hosiery Mills of Rossville, Ga., two miles from Chattanooga (and not the Richmond Spinning Co. of Chattanooga), that consolidated. The plants will be continued under the Richmond title.

Mr. George B. Hiss of Charlotte, N. C., has been elected chairman of the board of governors of the Southern Cotton Spinners' Association in place of Mr. D. A. Tompkins, who has occupied that position since the organization of the association. Mr. Hiss has been identified with it as secretary, and has rendered valuable service as such to the association and the textile industries generally of the South.

QUOTATIONS OF COTTON YARNS.

By Buckingham & Paulson, New York, Philadelphia and Chicago, December 3.

No. 10s-1 and 12s-1 warps	12¾@13
No. 14s-1 warps	13½@—
No. 16s-1 warps	13¾@14
No. 20s-1 warps	14 @14½
No. 22s-1 warps	14½@—
No. 26s-1 warps	15¼@15½
No. 6s to 10s bunch yarn	12½@12¾
No. 12s-1	13 @—
No. 14s-1	13½@—
No. 16s-1	13½@14
No. 20s-1	14 @14½
No. 22s-1	14½@15
No. 26s-1	15 @15½
No. 8s-2 ply soft yarn	13 @—
No. 10s-2 ply soft yarn	13½@—
No. 8s-2 ply hard	12¾@13
No. 10s-2 ply hard	13 @—
No. 12s-2 ply hard	13¼@13½
No. 14s-2 ply	13½@—
No. 16s-2 ply	14 @—
No. 20s-2 ply	14¼@14½
No. 24s-2 ply	15 @15½
No. 26s-2 ply	15½@—
No. 30s-2 ply yarn	16½@—
No. 40s-2 ply	21 @22
No. 8s-3, 4 and 5 ply	13 @—
No. 20s-2 ply chain warps	14½@—
No. 24s-2 ply chain warps	15½@16
No. 26s-2 ply chain warps	16 @—
No. 30s-2 ply chain warps	16½@—
No. 16s-3 ply hard twist	14 @—
No. 20s-3 ply hard twist	14½@—
No. 26s-3 ply hard twist	15½@—

Cottonseed-Oil Notes.

The ginnery of the cottonseed-oil mill at Sumter, S. C., was destroyed by fire on the 27th ult. The loss is estimated at $2000; fully insured.

The proposed cottonseed-oil mill at Kenedy, Texas, is now a certainty, and everything is ready to begin the erection of the mill as soon as the machinery is placed on the ground.

The Victor Cotton Oil Co. of Yorkville, S. C., expects to start its new plant this week. The company has a large supply of seed on hand, and will probably continue crushing operations much later next spring. The plant is modern in type, and its success is assured.

The Upson County Oil Mills at Thomaston, Ga., has received an order from Boston, Mass., for 350 tons of cottonseed meal. The order is a very large one, and the directory has already commenced the shipment. The plant is one of the most complete in its appointment in the South.

It is stated that Swift & Co. of Chicago are about to establish a refinery in Memphis, Tenn. The plant, when completed and equipped with the necessary machinery for refining crude cottonseed oil, will cost over $100,000. The object of Swift & Co. in locating a refinery in Memphis is to make cottosuet out of crude cottonseed oil. Cottosuet is said to be one of the best products used in shortening bread.

The market for cottonseed products at Galveston, Texas, last week was quiet and very steady. Exporters' quotations at the close on Saturday last were as follows: Cottonseed oil, 26 to 26½ cents for prime crude, loose, at Texas mills, and prime refined, 35 cents; prime cottonseed cake, $23.25 to $23.50 per ton f. o. b. Galveston, and prime cottonseed meal, $23.50 to $23.75 per ton. Linters f. o. b., compressed, Galveston, choice, 3⅝ cents; A, 3¼ cents; B, 2⅞ cents.

The following are the official quotations of cotton and cottonseed products as posted at the New Orleans Cotton Exchange on the 2d inst.: Prime refined oil in barrels, per gallon, 35 cents; off refined oil in barrels, per gallon, 33½ cents; prime crude oil, loose, per gallon, 29 cents; prime cottonseed cake, per ton of 2240 pounds, $26.50; prime cottonseed meal, per ton of 2240 pounds, $25.50; soap stock, per pound, 1.20 cents; linters, A, per pound, 3⅛ cents; B, 2⅝ cents; C, 2⅛ cents; cottonseed in sacks delivered at New Orleans, per ton of 2000 pounds, $13; in bulk delivered at New Orleans, per ton of 2000 pounds, $12.

An endeavor is being made to add before the next annual meeting 500 members to the Commercial Club of Louisville, Ky.

LUMBER.

[A complete record of new mills and building operations in the South will be found in the Construction Department.]

LUMBER MARKET REVIEWS.

Baltimore.

Office Manufacturers' Record,
Baltimore, Md., December 4.

The situation in all avenues of the local lumber market continues to show steady improvement, and while the volume of business is not of an unusual character, prices are steady, with a fair distribution of stock. The demand from nearby towns has been fairly active during the past week, while in a local way boxmakers and others have been purchasing freely. The North Carolina pine trade continues to show remarkable strength, and values are higher now than they were in the spring of last year. Receipts during the past week have improved, and for all kiln-dried lumber there is a good demand, air-dried lumber also showing better form. Stocks at all milling centers are not accumulating, and are somewhat better assorted as to dimensions. White pine and cypress are both being freely distributed, with values very steady. For poplar the demand is steady, with values firm and unchanged. Stocks of poplar at the mills are light, as orders are numerous and shipments free to seaboard and other points. There is a free movement in hardwoods, and the market is more active than usual, with prices steady. Nearby towns have been buying some good-sized lots recently, and for all seasoned lumber the demand is quite pronounced. The foreign hardwood trade is slightly improved on the strength of favorable reports from the United Kingdom and Continent. There seems to be an increase of confidence among importers and dealers in the English market, and while trade is quiet, prices are well maintained.

Charleston.

[From our own Correspondent.]
Charleston, S. C., December 2.

During the month of November the lumber market in this section has shown unusual strength in most departments, and the volume of business has been very satisfactory. Prices, too, have shown more strength, and at the moment are very steady for all desirable grades of lumber. During the week the following shipments left this port: Schooner Laura C. Anderson with 768,000 feet of lumber; schooner Charles L. Mitchell with 442,400 feet, and schooner Georgetta Laurence with 213,000 feet, also 30,046 feet by steamer, all for New York. The steamship Algonquin cleared with 55,200 feet among her cargo; schooner John H. May with 311,600 feet, and schooner Humal Rock with 365,000 feet for Philadelphia. The shipments of lumber from Georgetown continue to increase as the season progresses. The Atlantic Coast Lumber Co. has added another steamer to its fleet, and the steamers Waccamaw, Georgetown and Katahdin, each with a capacity of 1,250,000 feet of lumber, and schooner John A. Beckerman, with a capacity of 350,000 feet, have been cleared for New York during the past week. The Atlantic Coast Lumber Co. expects to start Mill No. 4 in about a fortnight with a capacity of 150,000 feet of lumber, when the company's total daily output will reach 400,000 feet of lumber. The market for both yellow pine and cypress continues firm, with a good demand from the usual sources.

Savannah.

[From our own Correspondent.]
Savannah, Ga., December 2.

During the month just closed the activity in the lumber trade of this section has been quite pronounced, and the general features of the market most encouraging to shippers. Over 16,000,000 feet of lumber has gone forward during the month to Northern and Eastern points, and indications point to a continuance of this activity during December. The steamship Northtown, the first of the Northwest Steamship Co.'s boats, sailed on the 30th ult. for New York with one of the largest deckloads of lumber ever taken out by a coastwise liner in recent years. The reports from all milling sections in Southern Georgia are in the main satisfactory, most of the mills being supplied with orders. Prices for all desirable grades of lumber continue to rule very steady, and at Brunswick and other nearby points the market is in good shape, and shipments of lumber and crossties very heavy. Complaints of a scarcity of cars continue to be received, but the situation at the moment is improving, and relief has been afforded shippers by the several railroads. Freights continue unchanged, and rates are about steady. The following charters are reported for the week: Schooners Cassie F. Bronson, 952 tons, Brunswick to New York with crossties at 15 cents, and John H. Souther, 871 tons, Brunswick to New York with crossties at 15½ cents and switch and bridge ties at 16½ cents; schooner J. E. Dubignon, 459 tons, from Savannah to Philadelphia with lumber on private terms, and schooner Tofa, 536 tons, Brunswick to New York with lumber and piling on private terms.

Jacksonville.

[From our own Correspondent.]
Jacksonville, Fla., December 2.

The month of November showed a fair volume of business in all lines of trade at this port. The primary industry of lumber showed up in good form, and the demand from the North and East has been quite brisk during the past ten days. The coastwise exports of lumber for the month of November were 8,424,500 feet of yellow pine and 1,297,000 feet of cypress. For the month of October the shipments were 9,757,000 feet of yellow pine and 347,000 feet of cypress. The total shipments coastwise and foreign for the month were 9,841,500 feet, against 10,343,167 feet for the preceding month. The shipments of crossties reached 14,350, and of shingles in bulk 247,000 and bundles 21,300. The foreign shipments of lumber amounted to 120,000, and of crossties 10,000. There is considerable activity among the mills here, all being fully occupied on orders, and at all adjacent points mills are working up to their full capacity. A number of vessels are due to arrive, and several new charters reported, which will all create considerable activity among shippers during the present month. The Clyde Line steamers are all taking out large shipments of lumber each trip, and present indications point to considerable activity in all departments of the lumber trade during the present month.

Mobile.

[From our own Correspondent.]
Mobile, Ala., December 2.

The market for timber and lumber has ruled fairly active during the past week, but stocks of timber are very light, and business on that account is of moderate volume. The market for sawn timber continues to rule firm, with sales at 14½ cents, while some are asking 15 cents per cubic foot. Shipments of sawn timber during the past week amounted to 437,500 cubic feet to the United Kingdom and continental ports. Stocks of timber at Ferry Pass have been very much reduced by recent shipments, and as receipts of timber are very light, the stock of timber is now about 2500 pieces. The market for logs is active, and pine logs suitable for sawn timber are selling at $10 per 1000 feet; cypress logs, 8 to 14 cents per cubic foot; poplar, $6 to $8 per 1000 feet; oak, $8 to $12 per 1000 feet, and cottonwood, $4 to $5. There is a fair demand for lumber, and orders from South America are more frequent, while there is some demand from Cuba. The list of values continues to rule very steady, and there is considerable business at all milling sections adjacent to this port. Mills are generally well supplied with orders, and running at their full capacity. During the past week nearly 2,000,000 feet of lumber left this port, several large shipments being for Buenos Ayres and Cuba. The quotations generally at this port to the local trade are as follows: Lumber, rough heart, $13.50 to $16; merchantable, $10 to $11; flooring, $8 to $14; ceiling, common, $7 to $11; heart, $18 to $20. The freight market continues slow, and rates unchanged. Charters reported are the Dutch steamer Taxel, 1330 tons, from Pensacola to Antwerp with timber at 82/6, December-January; schooner H. P. Simpson from Pascagoula to Philadelphia with lumber on private terms; schooner Mary B. Judge, 399 tons, from Mobile to Havana with lumber at $6, and steamer Indrid Horn from the Gulf to two ports in the United Kingdom or Continent with timber at 85/, March. The Dutch steamer Toxel, 1330 tons, was chartered to load at Pensacola with timber for Antwerp at 82/6, December-January.

Beaumont.

[From our own Correspondent.]
Beaumont, Texas, November 30.

There is a great influx of orders by mail and traveling salesmen to the mills from the Texas territory. It appears as if every city, village and hamlet in the State was on a building boom. The marketing of the crop is causing some country activity. Very few, if any, of the dealers have had a normal stock of lumber on hand, and this active call for stock from the city and country trade has caused them to send orders to the mills in a rush for stock. The demand is at this time for all classes of lumber, and no item on the list seems to be a favorite at the expense of some other. There is a shortage in the clear and star grades of the planer stock, such as flooring, etc., but the mills are doing the best they can with such stock as is obtainable. The great trouble at the present time at nearly every mill is the lack of cars. This is rather a hackneyed subject, but it is a most live one just now. Shipments of lumber are being very materially interfered with because cars cannot be obtained. The shortage seems to affect all districts alike. In some cases mills that usually ship 100 cars per month have not been able to ship over thirty or thirty-five during the month of November. The railroads simply have not the cars, and, of course, cannot furnish them. The shortage is not on any one road, but is on all of them. In the face of this condition, it is quite likely that the stock sheet of the long-leaf mills for the month of November will show some increase in stock. Were it not for this car famine the shipment record for the month would be good, as the weather has been very favorable to shipping planer and yard lumber. There is a noticeable stiffening in prices. Mr. C. E. Walden, sales manager of the Sabine Tram Co., informed the writer today that he had turned down several orders within the past few days at $14.50 for dimension delivered on 18¾-cent rate, because the price was not high enough. When it is remembered that this is only 50 cents off the current price-list, it will be seen how close the first-class mills are sticking to their ideas of value. Of course, there are smaller mills and some of the wholesalers that will accept the price refused by Mr. Walden, but few of

the first-class mills, if any, will do so. There is little change in the situation regarding the Western markets. The Texas and Louisiana mills' prices do not attract the business, and it seems to be going to the Arkansas mills at lower figures, whose stocks are somewhat larger, comparatively, than the Texas mills. There is a very good demand for stock from the newly-opened territory in Oklahoma, and a good deal of Texas and Louisiana lumber is finding its way thither at very good prices; as a general rule, based on Texas values. The greatest feature of the timber market this week is an enquiry from one of the Mexican roads for 362,000 pieces of 6x8-8 heart crossties. This is a very big enquiry, and will doubtless be placed with the mills of Texas or Louisiana, in the long-leaf district, of course. It amounts in feet to 9,600,000 board measure. The delivery runs until next May. It is doubtful if anyone will be found to take the order at less than $13, as the prices on this class of material are very stiff, and the demand something enormous. There is no abatement whatever in the call for this class of stock. The export market is as barren as usual, with the exception of the Mexican trade. This continues brisk, and could more coastwise tonnage be had considerable more business could be done than is now the case. The demand for shingles in Texas is very great, but it is almost impossible to get any shipped, as the cypress manufacturers in Louisiana are probably in worse shape from the car famine than any other class. It is impossible to get cars, and the manufacturers have simply thrown up their hands in that section and say they cannot promise anything. Mr. John Henry Kirby, president of the Kirby Lumber Co., spent today in the city, this being his first visit since his return from the North. Part of his time was devoted to consulting with the heads of the lumber concerns here relative to the impending changes of property rights which on the first of January will go to the Kirby Lumber Co. Mr. Kirby states that in about three weeks a list of appointments will be given out covering those names that are to lead the executive work.

Lumber Notes.

The E. F. Smith Hardware-Furniture Co. of Arcadia, Fla., has been chartered, with a capital stock of $50,000.

The Continental Furniture Co. of High Point, N. C., has been chartered, with a capital stock of $100,000. L. C. Boyce and others are the stockholders.

The Brown Furniture Co. of Salisbury, N. C., has been chartered by E. F. Hicks of South Boston, Va., and others. The capital stock is placed at $50,000.

Receipts of lumber at New Orleans for the week ending the 29th ult. amounted to 1,941,000 feet, and for the season 36,381,296 feet, against 39,336,121 feet last season.

The company store and offices of the Butters Lumber Co. at Boardman, N. C., was destroyed by fire last week, entailing a loss of $20,000, almost fully covered by insurance.

The molding-room and pattern shop of the Starke Dixie Plow Works at Richmond, Va., were destroyed by fire last week. The loss is estimated at $5000 to $6000, fully covered by insurance.

The Bennett Hardwood Lumber Co. of Memphis, Tenn., has been chartered, with a capital stock of $55,000. The incorporators are E. T. Bennett, J. N. Pendrod, E. F. Abbott, J. W. Thompson and W. A. Percy.

The following shipments of wood products were reported at Pensacola for the week ending the 25th ult.: Timber and lumber, 4,098,000 feet; cottonwood lumber, 42,000 feet; creosoted lumber, 58,032 feet; oak staves, 12,100.

The Warrenton Furniture Co. of Warrenton, N. C., has completed its plant, and is well equipped with modern machinery. It will commence the manufacture of several grades of chairs, and expects later on to make cheap and modern suits.

The Biscoe Lumber Co. of Montgomery county, North Carolina, was chartered last week, with a capital stock of $100,000. The stockholders are W. W. Miles, J. N. Holloway and J. F. Holloway. The company will handle rough and dressed lumber.

It is understood that Mr. F. N. Tate of Charlotte, with others, will establish a furniture factory at High Point, N. C., to be known as the Continental Furniture Factory. The capital stock is $30,000, to be increased to $100,000. The location is under consideration.

The Dublin-Schiller Furniture Co. of Asheville, N. C., has been chartered, with a capital stock of $25,000. The company will manufacture all kinds of furniture, sewing machines and other articles. The incorporators are J. Lubin, J. Schiller, S. Wittowsky and J. W. Ramsey.

The Ware Manufacturing Co. of Atlanta, whose furniture plant was destroyed by fire a year ago, has its new factory nearly completed, and will occupy it about January 1. The factory is brick, five stories in height, 70x250 feet in dimensions, and complete in all its equipment.

Mr. James Strong of Philadelphia, Pa., was in Bristol, Va., last week to witness the completion of his splendid new lumber plant, which has a daily capacity of 100,000 feet. The first consignment of logs was received at the new plant last week, and operations will commence about the 15th inst.

Shipments of timber last week from Mobile were larger than at any time during the year. Sawn timber shipped aggregated 437,500 cubic feet, and hewn timber 49,752 cubic feet. The shipments of lumber amounted to 1,703,339 feet, and for the season 20,452,078 feet, against 25,001,710 feet last year.

The Kanawha Planing Mill Co. of Charleston, W. Va., was chartered last week, with a capital stock of $25,000. The company will operate planing mills and do a general lumber business. The incorporators are J. W. Graham, L. E. Burdett, W. H. Wells, P. W. Burdett and W. E. Burdett, all of Charleston.

Messrs. Lambert and Allen of Poplarsville, Miss., were in New Orleans last week to complete arrangements for the rebuilding of their saw-mill destroyed by fire a fortnight ago. They will put in a circular saw-mill with a capacity of 75,000 to 80,000 feet a day, and will have it in operation as soon as the machinery arrives.

It is stated that the new saw-mill plant at Century, Fla., the property of the Alger-Sullivan Syndicate, will commence operations on or about the 10th inst. The plant at Century is really two in one. It is a combination band and circular saw-mill with a cutting capacity of 150,000 feet of lumber a day. It is of the newest type, and will cost at least $300,000.

Mr. A. H. Potter of A. L. Potter & Co. of Norwich, Conn., has recently completed negotiations for the purchase of a large tract of timber land in North Carolina. The transfer includes a township containing 120,000 acres located in McDowell county. The timber includes oak, poplar, hickory and chestnut, and saw-mills will shortly be erected on different sections of the property.

PHOSPHATES.

Phosphate Markets.

Office Manufacturers' Record,
Baltimore, Md., December 4.

As in all other fertilizer ingredients, phosphate rock has been dealt in very moderately during the past week, but the general tone of the market is very steady, and bids are only accepted at outside figures. Local fertilizer men are purchasing in small lots, as a rule, but out-of-town buyers have been in the market for larger purchases. The only charters reported were the Norwegian steamer Thrift, 416 tons, from Port Royal, S. C., to a French port with phosphate rock on private terms, prompt, and the British steamer Heighington, 1827 tons, from Hamburg to Charleston with kainit on private terms. At all mining sections of the South there is a fair share of development, and, in fact, the reports of last month's operations are very satisfactory. The Florida mines are being worked with considerable energy, but on account of a scarcity of labor the output has been materially lessened. The market is firm for both land rock and pebble, and considerable has been sold for 1902 at a slight advance. Shipments from the ports for November were large, and stocks at the mines have been considerably reduced. The market for South Carolina rock is nominally steady, with a moderate domestic trade reported. In Tennessee there is unusual activity in the Mt. Pleasant phosphate field, and in Sumner county and other sections the output is larger than usual. Domestic rock is in active demand for 1902 delivery, and the situation in foreign rock is very encouraging. Indications point to higher prices for next year, and several of the larger companies are not anxious to close contracts for delivery except in early spring. The market on Saturday was firm, with values unchanged.

Fertilizer Ingredients.

The general tone of the ammoniate market continues steady, with a limited volume of business. There is a moderate inquiry from Southern sources, and Eastern buyers are in the market for moderate-sized lots. Messrs. Thos. H. White & Co., in reviewing the market for November, say: "The market for ammoniates during November was not without animation, but certainly without much business. It has been mostly a game of 'thrust and parry' between buyer and seller. Bids for important deals have been frequent, but below sellers' views. About half the six and twelve months' contracts of standard 9 per cent. and 20 per cent. tankage usually sold in October and early November are yet unplaced. The Big Four claim a good general demand, and at the close name an advance in quotations. The apathy of Eastern buyers is explained by the enormous catch of fish the past summer yet in stock, and by their heavy purchases of foreign sulphate of ammonia, the latter costing only $2.05 to $2.15 per unit 'delivered' Northern Atlantic ports. Consequently Western tankage and blood will not prove attractive to them at current figures. But for the interior West and South, with cottonseed meal at $21 to $23, we do not consider present prices of ammoniates f. o. b. Kansas City and Chicago as extreme. It is largely a question of storage capacity. If sellers can take care of their output for the next thirty or sixty days they will dictate prices. Prompt tankage has, however, sold the past week at concessions on figures bid two weeks since for six months' and year contracts. If these sporadic lots continue to come upon the market prices will remain as now, more or less unsettled."

The following table represents the prices current at this date:

Sulphate of ammonia (gas)	$2 80	@	2 82½
Nitrate of soda, spot Balto	1 90	@	1 92½
Blood	2 27½	@	2 30
Azotine (beef)	2 30	@	—
Azotine (pork)	2 30	@	—
Tankage (concentrated)	2 17½	@	2 20
Tankage (9 and 20)	2 25 & 10	@	2 30 & 10
Tankage (7 and 30)	20 00	@	20 50
Fish (dry)	26 00	@	27 00

Phosphate and Fertilizer Notes.

The schooner May Curtis cleared last week from Charleston, S. C., with 519 tons of phosphate rock for Baltimore.

The shipments of Tennessee phosphate rock from the port of Pensacola for the week ending the 25th ult. amounted to 2970 tons.

The steamship Aldgate cleared last week from Savannah, Ga., for Bremen with 1648 tons of high-grade Florida phosphate rock, valued at $16,480.

It is stated that the Virginia-Carolina Chemical Co. has purchased fourteen acres of land in Montgomery, Ala., and will at once erect thereon an extensive fertilizer plant.

Mr. W. W. Clark, superintendent of the Prairie Pebble Phosphate Co., has resigned and accepted a position with one of the oldest phosphate companies in Polk county, Florida.

The Savannah Guano Co. of Savannah, Ga., has been incorporated, with a capital stock of $125,000. The incorporators named are Charles H. Willcox, A. J. Ives, James R. Sheldon and George L. Garmany.

New Line for Porto Rico.

The Port-American Company has secured the government approval to build a railroad in Porto Rico, which will follow the coast line and reach the principal seaports on the island. The company is composed of capitalists from the United States, and it is stated will build the road as soon as possible, with branches to the principal points in the interior of the island.

In the Memphis district of Tennessee the lumber business is showing considerable activity, and a good substantial business is reported. Some good orders are being received for hardwoods, and those now being filled are larger than usual. There is a good foreign demand for red gum, but the demand for sap gum is limited. The prospects for a better trade in cottonwood are very flattering, and during the past month a very fair trade in this wood has been in progress. One-inch common oak is selling well. Prices generally are satisfactory, and the demand throughout the list is steadily gaining. The car shortage has been considerably relieved.

The Little River Lumber & Railroad Co., owned by Pennsylvania capitalists, who have expended $250,000 in timber land and a tannery in Blount county, Tennessee, has decided to build a railroad from its plant to connect with the Murphy branch of the Southern Railroad at Bushnell, N. C. The road will open up a section rich in timber and minerals. Actual work on this road will begin before January 1.

The shipments of lumber from Georgetown, S. C., continue to increase. The Atlantic Coast Lumber Co. has added another steamer to its fleet, and last week the steamers Waccamaw, Georgetown and Katahdin, each with a capacity of 1,250,000 feet of lumber, and the schooner John A. Beckerman, capacity 350,000 feet, have been loading at the company's piers.

The battleship Missouri will be launched at Newport News on December 28.

MECHANICAL.

Electric Current Regulating.

The various methods of regulating what is known as the constant current has been made the subject of an interesting study by Mr. J. Henry Hallberg, the well-known authority on this subject. At the recent convention of the Ohio Electric Light Association Mr. Hallberg read a paper on the topic referred to, of which the following is an abstract:

There are at the present time in practical use three general methods of control for series alternating-current arc-lamp circuits supplied from constant-potential sources. One method consists of employing arc lamps with differential regulating magnets and an automatic cut-out, which throws into circuit a reactive coil when the lamp ceases to operate. This method is substantially the same as that employed for the operation of lamps in series on a constant-potential direct-current circuit, such as a 500-volt circuit, the only difference being that the lamp and its substitute impedance coil are designed for alternating circuit instead of direct. If any of the carbons should slip through their clutches when the lamps are in operation the current in the lamp circuit will increase to an abnormal value, and the fuses may blow or the remaining lamps will draw long arcs of abnormal potential, causing the shunt coils to burn out. This system requires the use of a reacting starting coil in series with the circuit, which is manipulated when the lamp circuit is thrown on. It is evident that such a system does not allow for an increase or decrease in the number of lamps in circuit, and also that in case of a double-ground or short circuit fuses will blow and all the lamps will be put out. The practical limit of this system is about twelve lamps per circuit for alternating-current work. A modification of this system consists of a constant-potential transformer, with taps led out from the secondary winding to a regulator head similar to the face-plate of an ordinary rheostat, the potential of the circuit being adjusted by cutting in or out sections of the secondary winding (see Fig. 2). Relays are provided which cause the regulator head to be operated by means of a spring or a weight in case of short circuits on the line. A reactive starting coil is also used in connection with this system to prevent the lamps from chattering when they are started up. Neither of the systems mentioned in this and the foregoing paragraphs has any provision for maintaining strictly constant current under variations in line voltage; consequently, the current in the lamp circuit will fluctuate if the voltage rises or falls.

The second general method consists of the use of a transformer which converts constant-potential current into constant current. Of these there are two types, one of which is the floating coil or tub transformer. (This has been described so frequently that a detailed description here is unnecessary.) Such a transformer preserves practically constant current in the lamp circuit, irrespective of changes in the number of lamps or in the impressed voltage. On account of the inherent current regulation of this type of transformer being limited at full loads, it is necessary to use differentially-wound lamps; in fact, shunt lamps would not operate at all satisfactorily on a fully-loaded constant-current transformer of this type without putting extra resistance or reactance in series with them. The efficiency of a lamp suitable for operation on this transformer would be about 90 per cent. when warm, and the efficiency of a 100-light transformer is said to be 96 per cent. maximum, so that the maximum efficiency of the system should be about 86 per cent. The power factor of this system will vary within wide range, depending upon the primary voltage, the number of lamps burning, the length of the arcs, style and quality of carbons, and the frequency. The writer has been informed that tests made on this system have shown a power factor of 75 per cent. at full load under favorable conditions. The system is not practical when the transformer carries less than three-fourths of its full load, as the power factor falls rapidly below that point.

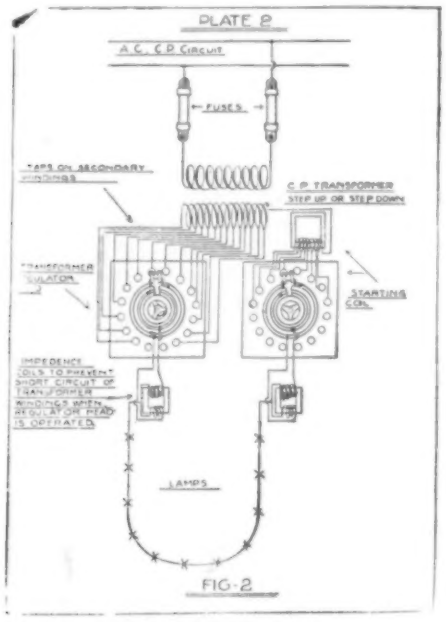
The other type of automatic transformer comprises a constant-potential transformer, with the secondary winding tapped to a regulator head exactly like the second system mentioned above, but in this case the regulator head is operated automatically by solenoids, which are controlled by a relay in the lamp circuit, as indicated in Fig. 5. The efficiency of such a transformer, together with its regulator, is about 97½ per cent. at full load, and as the differentially-wound arc lamp with about 90 per cent. efficiency must be used with this system, the efficiency of the whole system will be about 87½ per cent. for circuits of 50 to 100 lights. The power factor is practically constant at all loads.

The third general method of regulation comprises an automatically-adjusted reactive coil inserted in series with the lamp circuit, which may be supplied from the secondary of an ordinary constant-potential transformer or direct from a primary alternating-current line. The elements of the system are indicated diagrammatically in Fig. 6. The regulator consists of two reactance coils or solenoids mounted in a substantial frame and suspended on four spiral springs from a marble slab; a U-shaped iron core suspended below the solenoids from the arc-shaped end of a lever and adapted to move vertically, so that its arms will be inserted into or withdrawn from the solenoid, and a dash-pot below the core to steady its movement. A weight is hung from the other end of the lever to counterbalance the core.

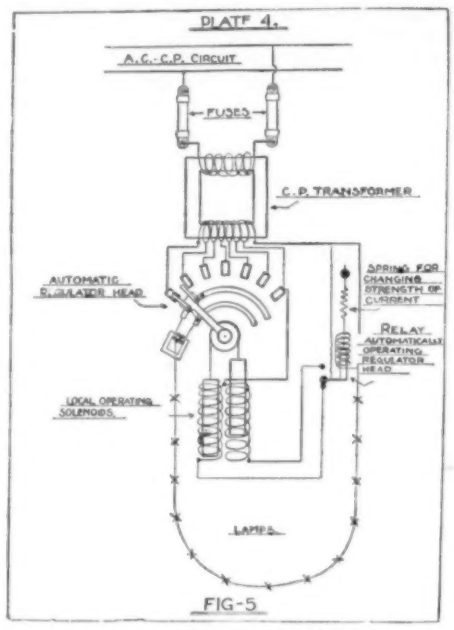
Any increase in current above the normal draws the iron cores up into the solenoids until the reactance of the latter is increased to such a point that the current is reduced to its normal value; a weakening of the lamp-circuit current has the opposite effect. When the system is idle the ends of the core are just within the ends of the solenoid, as indicated in the diagram. It is obvious that variations in the number of lamps or in the impressed potential of the circuit will be taken care of by the action of the regulator, which maintains constant current in the line under all conditions within the limits of its range. The efficiency of a 50-light regulator of this type is 98.8 per cent., and the current is maintained constant from no load to full load within 0.2 ampere.

A strong advantage of this system is that it allows the use of plain shunt-wound lamps instead of the differentially-wound lamps necessitated in other systems. The advantages of shunt-wound lamps for alternating-current work are high efficiency, maximum possible power factor and simplicity of construction. The elements of the lamp used in connection with this system of regulation are represented diagrammatically by Fig. 8, which is practically self-explanatory. As there are no coils whatever in series with the carbons, the arc voltage is practically the same as that at the hangers. The efficiency of this lamp is 98.6 per cent., and its power factor ranges from 88 to 91 per cent., so that the efficiency of the system is 97.4 per cent., and its power factor ranges from 80 to 86 per cent.

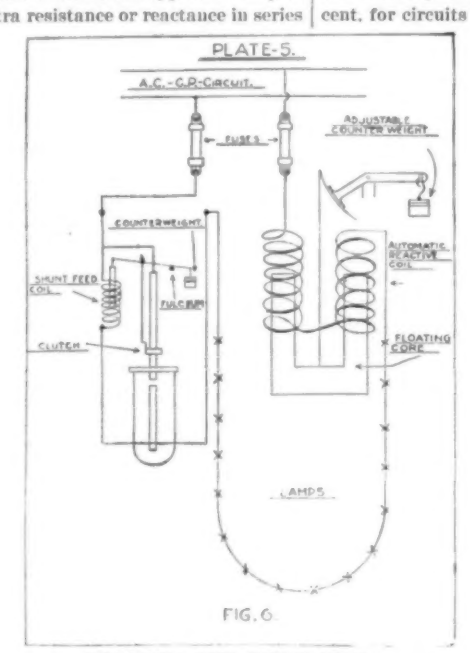
The shunt lamp referred to can also be used as a differential lamp, in which case the counterweight on the rocking lever is omitted and series solenoids substituted for striking the arc. On account of the close regulating qualities of the automatic reactive coil, the series solenoids and their core in the lamp can be made very small; hence the efficiency of the differential type of lamp used in connection with this regulator is about 94 per cent. The writer believes that the only advantage of a differentially-regulated series lamp over a properly-designed and constructed shunt lamp is that there is no flush of current at starting. There-



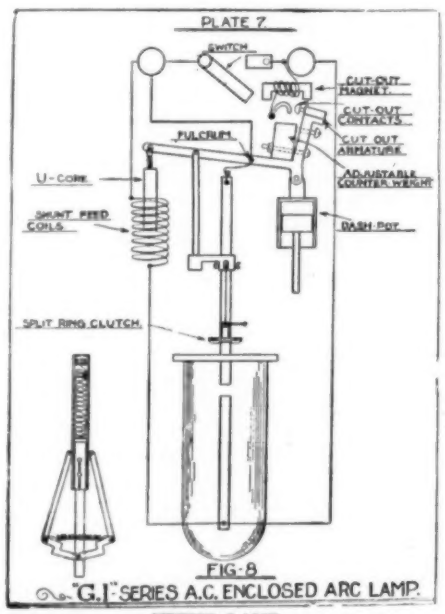
MANUAL REGULATION.



AUXILIARY REGULATOR.



REACTIVE COIL REGULATOR.



SHUNT LAMP.

fore, if series incandescent lamps are operated on the arc circuit they will not be subjected to an abnormal rise in current when the arc lamps are started.

The B. & C. Friction Clutch.

The B. & C. friction clutches which are here illustrated are manufactured by the Whitman Manufacturing Co. of Garwood, New Jersey.

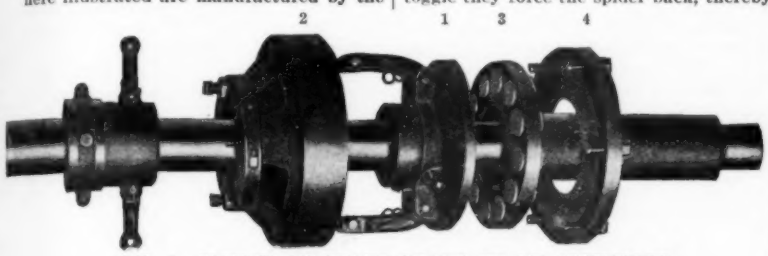


FIG. 1.—CLUTCH ON SHAFT READY TO BE ASSEMBLED.

The clutch was designed to overcome some of the well-known defects in friction clutches in general, and has met with great success since it was placed on the market, two years ago. It is made with an extended hub, and can therefore be adapted to many different uses. Either wood-split, iron or steel pulleys can be placed on this hub, or gears, sprockets, hoisting drums or other such machinery.

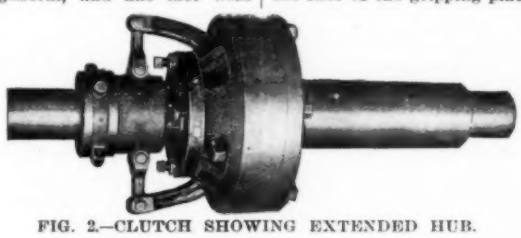


FIG. 2.—CLUTCH SHOWING EXTENDED HUB.

The operation of the clutch is as follows: The driver (No. 1, Fig. 1) is keyed or set-screwed to the shaft; the spider (No. 2) slides over it and bears on the same in two places, keeping it in line; the hub (No. 3), with wooden plugs in the flange, abuts against the face of the driver and the gripping plate. No. 4 is fastened to the spider with cap-screws. Two cam levers are pivoted on the fixed driver. The short ends of these levers operate against the adjusting screws, which are, in turn, fastened in the spider. When the long ends of the levers are thrown out with the usual sleeve and toggle they force the spider back, thereby drawing the gripping plate against the wooden plugs in the flange of the hub. This flange is thus gripped in the circular vise between the face of the driver and the face of the gripping plate. The wear on the face of the wooden plugs is taken up by advancing the adjusting screws.

A glance at the parts of this clutch will show how simple they are, and therefore how small is the liability to get out of order, and the direct application of the power to the gripping surfaces makes the clutch a powerful gripper.

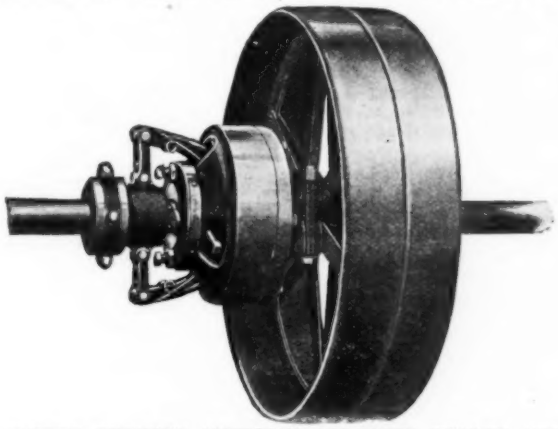


FIG. 3.—CLUTCH SHOWING AMERICAN ALL-STEEL PULLEY ATTACHED.

These clutches are manufactured in the East solely by the Whitman Manufacturing Co. at Garwood, N. J.; in California by Messe & Gottfried of San Francisco, and in Oregon by the Willamette Iron and Steel Works of Portland. Any of these concerns will gladly send the clutches on thirty days' trial to responsible parties, subject to return if not entirely satisfactory.

REFLECTING HAND LEVELS.

Reflecting Hand Levels.

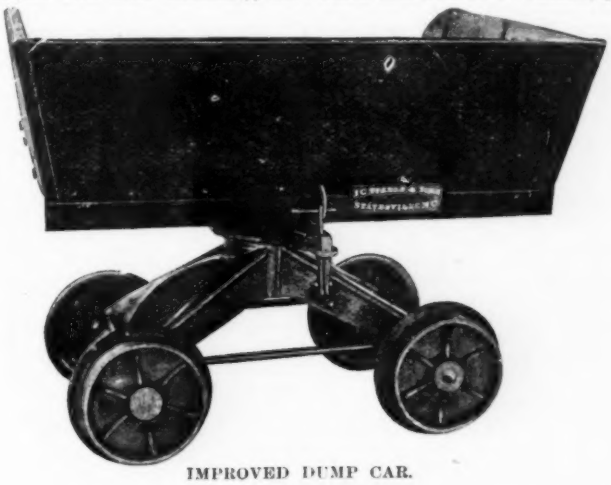
A firm which is very widely known for the superior quality of its material is Messrs. F. Weber & Co. of Philadelphia. Draughtsmen and engineers are thoroughly familiar with the high grade of its instruments and other supplies, and it may be said that it keeps fully abreast of the times in improvements to the mechanism offered its patrons.

Very extensively used are the reflecting hand levels, which are herewith illustrated. They are intended for jacob staff, and come in various forms. The telescopes are of five diameters, and each instrument is equipped with a ball-and-socket joint for the staff. One of the forms is provided with a micrometer screw adjustment for focusing, horizontal circle of three-inch diameter for offsetting, with tangent screw and vernier reading to minutes.

Messrs. Weber & Co. will be pleased to send a complete catalogue of their instruments to any address on application.

Improved Dump Car.

The accompanying cut represents an iron frame revolving dump car manufactured by Messrs. J. C. Steele & Sons of Statesville, N. C., manufacturers of brick-making machinery. These cars were designed more particularly for brickyards, and have never been advertised, except in connection with brick machinery, but quarrymen, coal and ice companies and others seeing them in use, recognized their adaptability to their use, and a good demand has been created for them strictly on the merits of the cars. They do not work loose, as the frame of the smaller sizes are cast in one piece and the larger sizes in two pieces. The cars are made in three sizes—three-quarters yard, one and one-quarter yards and two yards. The manufacturers will be pleased to give further information desired.



IMPROVED DUMP CAR.

Literary Notes.

The third volume of the "Lower Norfolk County Virginia Antiquary," edited so enthusiastically and entertainingly by Edward W. James, Esq., of Norfolk, Va., has been completed with the issue of Part IV. Within the forty pages of this number is to be found material of great interest and value to the antiquarian, the genealogist and the student of Virginia history generally. It contains a copy of the act of 1736 confirming the charter of the borough of Norfolk and enlarging the jurisdiction of the Hastings Court at Williamsburg, extracts from the marriage records of Norfolk and Princess Anne counties, lists of land-owners and slave-owners in Princess Anne county in 1775, decrees of the court in Lower Norfolk county dating back to the seventeenth century, and a careful sketch of Mr. Charles Reid, which is an example of the rare ability of the editor to bring a great mass of information within a small compass, and of his painstaking care to insure accuracy and completeness. The three volumes of Mr. James' work are invaluable in themselves, and they indicate as a whole the widening character of his work, and are notable examples of what should be done with the valuable material for the history of Virginian life, which, if neglected, must be lost forever.

The December number of Country Life in America emphasizes the unique character of this large magazine, with beautiful illustrations. Besides the flowers and gardens, this month, there is much about the world out of doors in December, including a special Christmas cover of unusual design and a large photograph, over three feet long, of the big-tree forest of California, put in as a supplement. "An Outlook on Winter," by L. H. Bailey, is the leading article, being a rhapsody on the charm of snowy landscapes and frozen brooks, while "Snowdrift" is a poem by Joel Benton and "Christmas Greens" an instructive article about the trees and foliage of mountain and swamp that contribute to the brilliance of the holiday season. The story of the "Caterpillar's Winter Home" is told with a series of photographs showing the spinning of the cocoon. Among other leading features are "The Chesterbrook Stock Farm," by Francis Nelson Barksdale, which tells how A. J. Cassatt, president of the Pennsylvania Railroad, raises blooded horses, cattle and sheep on his famous bluegrass estate in Eastern Pennsylvania, and "A Flower of the Million and of the Millionaire," which is the title of the two large photographic studies of geraniums and orchids.

The leading articles in the Chautauquan for December include "A Calm View of Reciprocity," by George B. Waldron; "The Making of Cenice Laces," by Ada Sterling; "Formative Incidents in American Diplomacy," by Edwin Erle Sparks; "A Reading Journey in Central Europe," by James A. Harrison; "The Inner Life of Leonardo da Vinci," by Adelia A. Field Johnston; "Mount Blanc," by Orrill V. Stapp; "The Legend of the Statue and the Bust," by Ida Masetti Bencini, and "Love and Marriage in Italy," by Lena Lindsay Pepper.

The Rice Association of America will meet at Crowley, La., on December 12, when 10-minute addresses will be made on subjects connected with the many phases of rice development in this country.

The Portsmouth (Va.) Business Men's Association has elected Mr. T. J. Wool, president; Mr. J. J. Warren, secretary, and Mr. John H. Downing, treasurer.

In less than twelve hours one day last week seven ships were handled in and out of the two docks of the Newport News Shipbuilding & Dry-Dock Co.

The Marietta (Ga.) Chair Co. has received orders recently for tables from Porto Rico.

CONSTRUCTION DEPARTMENT.

THE MANUFACTURERS' RECORD seeks to verify every item reported in its Construction Department by a full investigation and complete correspondence with everyone interested. But it is often impossible to do this before the item must be printed, or else lose its value as news. In such cases the statements are always made as "rumored" or "reported," and not as positive items of news. If our readers will note these points they will see the necessity of the discrimination, and they will avoid accepting as a certainty matters that we explicitly state are "reports" or "rumors" only. We are always glad to have our attention called to any errors that may occur.

*Means machinery, proposals or supplies are wanted, particulars of which will be found under head of "Machinery Wanted."

In correspondence relating to matters reported in this paper, it will be of advantage to all concerned if it is stated that the information was gained from the Manufacturers' Record.

It often occurs that the organization of a new company in a town is not known by the postmaster, and hence letters addressed to the company are returned marked "not known." The Manufacturers' Record reports the first organization of all companies, and our readers, in seeking to get into communication with them, should be very careful in deciding how to address them, and it is often advisable to add the names of one or more incorporators as an aid to the postmaster in delivering mail.

ALABAMA.

Alabama City—Cotton Mill.—Dwight Manufacturing Co. will erect additions, to include 100x186-foot clothroom and 50x100-foot clothstorage room.

Amite—Ice Plant.—W. B. Senter will erect ice plant, and has not contracted for machinery.

Bessemer—Electric-power Plant.—Birmingham (Ala.) Railway, Light & Power Co., reported recently as having received contract for lighting the city of Bessemer, will erect a power-house of about 1000 horse-power capacity.

Birmingham—Woodworking Factory.—A. J. Krebs Company, 2212 Avenue A, will install modern woodworking plant of small capacity.*

Birmingham — Cemetery Company. — Oakland Cemetery Co. has been incorporated, with capital stock of $10,000, by E. W. Whips and others.

Birmingham—Coal Mines.—Northern Coal Co. has been incorporated by R. F. Hanneman and T. J. Work; capital stock $30,000.

Birmingham — Cold-storage Warehouse. — Christian Moerlein Brewing Co. of Cincinnati, Ohio, will erect $25,000 office and cold-storage plant in Birmingham.

Birmingham — Furnace. — Sloss-Sheffield Steel & Iron Co. has blown in No. 4 furnace, which was blown out some time ago for repairs; capacity 175 to 200 tons of pig-iron per day.

Fort Payne—Furnace, Grate, Mantel, etc., Factory.—Caldwell Furnace Co. has secured plant formerly operated by Alabama Hardware Co., and will make alterations and improvements, installing new machinery for manufacture of furnaces, heaters, iron mantels and grates.

Gadsden—Telephone System.—Alabama & Georgia Long Distance Telephone Co. has increased capital stock from $10,000 to $30,000.

Guntersville—Coal Mines, etc.—Pennsylvania parties have purchased 2500 acres of land on Sand mountain, and will open coal mines.

Linden—Coal Mines.—W. L. Walston has discovered coal on his property.

Montgomery—Sewerage.—City will not construct sewerage system, as lately stated; report was erroneous; already has system in operation.

Montgomery— Fertilizer Works.—Virginia-Carolina Chemical Co. (Richmond, Va.) has purchased fourteen acres of land in Montgomery, and will erect extensive fertilizer works.

Stevenson—Handle Factory.—Gurley (Ala.) Handle Co. will erect a handle factory at Stevenson.

ARKANSAS.

Cane Hill.—Company has been organized, with John Edminston, president; W. S. Moore, vice-president; A. R. Carroll, secretary, and R. L. Burns, treasurer, for preparing green fruits by the steam and sugar process; plant will be installed at once and operations commenced; capital stock $10,000.

Hamburg — Mercantile.—Chartered: Hamburg Grocery Co., with capital stock of $10,000, by W. F. McCombs, president, and others.

Helena—Stave Mill.—Garner Stave Co. will rebuild its mill, recently burned at Marvell, at Helena and operate on a larger scale.

Lead Hill—Lead Mines.—J. S. B. Apollos and E. V. James of Ardmore, I. T., will open up lead mines at Lead Hill, Ark.

Little Rock—Mercantile.—Chartered: Hutt Grocery Co., with capital stock of $10,000, by W. J. Joyner (president) and others.

Little Rock—Mercantile.—Chartered: Hutt Grocery Co., with capital stock of $10,000, by W. J. Jayner and others.

Little Rock—Processing Company.—Chartered: Cone Hill Processing Co., with capital of $10,000, by J. S. Edmiston (president), W. S. Moore, A. R. Carroll and J. P. Edmiston.

Rogers—Cold-storage Plant.—Leo K. Letler & Co. will install cold-storage plant.

FLORIDA.

Arcadia—Hardware Company.—E. T. Smith Hardware-Furniture Co. has been incorporated, with capital stock of $50,000.

Fernandina—Land Improvement.—Fernandina Dock & Realty Co. has been incorporated, with capital stock of $100,000.

Kissimmee—Water-works.—City is considering construction of a $15,000 system of water-works. Address "The Mayor."

Pensacola—Planing Mill.—Pensacola Planing Mill Co., with capital stock of $25,000, has been incorporated by H. L. Griffith, C. L. Hart and Chas. A. Hilburn, to manufacture shingles, etc.

Tampa — Cigar Factory. — Tampa-Havana Cigar Co. has been incorporated, with capital stock of $25,000.

GEORGIA.

Atlanta—Belting and Supply Company.—Cotton States Belting & Supply Co. (established) has incorporated, with capital stock of $40,000, and elected J. J. Disosway, president; E. J. Powers, vice-president, and J. G. Wilburn, secretary.

Atlanta—Cement Works.—Southern States Portland Cement Co. has been incorporated, with capital stock of $50,000, and privilege of increasing to $2,000,000, for manufacture of Portland cement, by H. F. Van Deventer, Nathan S. Potter and L. C. Fletcher.

Atlanta—Knitting Mill.—Atlanta Knitting Mills will double its plant; now has fifteen knitting machines, etc.

Atlanta—Asbestos Mines.—Asbestos deposits have been discovered on the property of Lieut. Wilmer O. Chrisman of New York, and may possibly be developed.

Dublin—Telephone System.—J. O. Persons of Greenville, S. C., will organize stock company for construction of an independent telephone system at Dublin.

Emerich — Cotton-oil Mill.—John Barfield will erect a cottonseed-oil mill.

Eva — Flour Mill. — A. J. Houser has awarded contract for installation of a 60-barrel flour mill.

Gainesville—Corn Mill.—Fuller & Poter will install corn mill.

Griffin—Flour Mill.—W. P. McWilliams & Son have contracted for 40-barrel flour mill.

Griffin—Fire-alarm System.—Modern fire-alarm system will be constructed under the supervision of E. H. Davis.

La Grange—Sewerage.—City contemplates constructing sewerage system of about five or six miles, as lately reported; J. D. Edmundson, mayor.

Lavonia—Cotton Mill.—It is reported Lavonia Cotton Mills will double its 2500-spindle plant.

Lyle—Salt Well.—R. B. Bagwell has discovered and will probably develop a salt well on his property.

Reynolds—Flour Mill.—Ricks & Bro. are building new flour mill.

Rome—Agricultural Company.—John M. Graham, S. L. Graham, H. D. Cothran and G. S. Cothran have incorporated, with capital stock of $10,000, Cothran-Graham Orchard Co., for conducting agricultural business.

Savannah — Fertilizer Works. — Savannah Guano Co. has been incorporated to manufacture fertilizer materials by Chas. H. Wilcox, A. J. Ives, James R. Sheldon and Geo. L. Garmany. Capital stock is $125,000, with privilege of increasing to $500,000.

Thomaston—Flour Mill.—G. W. Hanner is building 40-barrel flour mill.

Thomaston—Flour Mill.—Dr. Hannah will establish a roller flour mill near Thomaston.

Waynesboro — Electric-light Plant and Water-works.—Legislature has authorized Waynesboro to issue $40,000 of bonds for construction of the water-works and electric-light plant recently reported; P. B. Hall, clerk of council.

KENTUCKY.

Cadiz—Tobacco Factory.—Tobacco factory 50x100 feet will be erected by A. C. Burnett and occupied by J. W. Hancock & Co.

Carrollton—Oil and Mineral Lands.—C. A. Meek, G. H. Conway, Jas. A. Stockdale, J. E. Young and others have incorporated Locust Oil & Mineral Co., leased and will develop 5000 acres of oil and mineral lands.

Danville—Electric-power Plant.—Geo. F. Anderson and others, who incorporated Danville Electric Power & Railway Co., with capital stock of $100,000, have secured lighting franchises.

Earlington — Mining.—Chartered: St. Bernard Mining Co., with capital stock of $1,000,000, by George Atkinson, James R. Rash of Earlington, E. G. Sebree of Henderson, Ky., and others.

Earlington—Oil and Gas Wells.—Bernard Mining Co., with capital stock of $1,000,000, has been incorporated by George C. Atkinson, James R. Rash and others.

Georgetown. — Georgetown & Lexington Traction Co. is increasing capital stock from $50,000 to $250,000 for the purpose of building a power-house, car barns, sheds, etc., and to construct and operate a telephone system between Georgetown and Lexington.

Hartford — Water Company. — Hartford Water Co. has been incorporated by J. W. Ford, H. P. Taylor and R. E. L. Simmerman, with capital stock of $6000.

Junction City—Stave Mill.—Junction City Stave Co. has been incorporated, with capital stock of $5000, by George J. Miller and Charles C. Fox of Danville, Ky.

Lexington — Pasteurizing Plants. — Kentucky Pasteurizing Co., R. L. Dollings, general manager, will erect ten plants in Ohio and Kentucky.

Lexington—Oil and Gas Lands.—W. N. Cropper, R. B. Walker, J. L. Watkins, J. B. Hoeing and others will organize company for developing 1600 acres of oil and gas lands.

Lincoln County—Oil Wells.—William Hicks and W. S. Foutz of Bluefield, W. Va.; H. P. Gray and S. P. Middleton of Crab Orchard, Ky., have leased 1500 acres of oil lands in Lincoln county from J. M. Linney, and will drill for oil.

Louisville—Pants Factory.—J. M. Robinson, Norton & Co., manufacturers of jeans clothing, etc., will incorporate, with capital stock of $1,000,000, and George C. Norton, president; Alvah L. Terry, vice-president.

Louisville—Street Paving.—Barber Asphalt Co. has received contract at $74,000 for paving 7000 square feet of street.

Louisville—Planing Mill.—Company has organized, with Peter J. Gnau, president; G. W. Alt, vice-president, and Joseph Schildt, secretary and treasurer, for establishment of planing mill.

Louisville—Mercantile.—N. B. Wigginton and John H. Wilkes will form $50,000 stock company for wholesale grocery business.

Louisville—Flour Mill, etc.—Rabbeth & Co. have commenced erection of their proposed flour mill; plant will include, besides flour mill, warehouse, grain elevator and cooper shop; daily capacity will at first be 800 barrels of flour, which will later on be increased to 1800 barrels; cost of entire plant, $50,000.

Owensboro — Pants Factory. — Owensboro Pants Manufacturing Co. has increased its capital stock from $25,000 to $40,000.

Paducah—Medicine Company.—E. E. Sutherland Medicine Co. has increased capital stock from $30,000 to $35,000.

Vanceburg—Oil Wells.—R. D. Wilson, W. C. Halbert, A. J. Stein, E. C. Roland of Vanceburg, C. Peebles and John Fitzmorris of Washington city have leased 15,000 acres around Vanceburg on which to drill for oil.

Whitehouse (P. O. Myrtle)—Tank.—Standard Oil Co. (New York, N. Y.) will construct permanent iron tank of 25,000 barrels capacity at Whitehouse.

LOUISIANA.

Dutchtown—Cotton Gin.—Picard & Geismar will rebuild their cotton gin recently reported burned.*

Jennings—Laundry.—F. H. Huber will establish a steam laundry.

Lake Charles—Oil Wells.—Higgins Standard Oil Co., Limited, has been incorporated, with capital stock of $10,000,000, by Patillo Higgins, J. B. Matthews, Thomas T. Taylor and others.

Lake Providence—Cotton-oil Mill and Ice Factory.—Carroll Oil & Ice Co., reported recently, will establish cottonseed-oil mill and ice factory. Address Yancey Bell, manager.

Leesville.—Leesville Light & Water-Works Co. will, it is reported, install a 15-ton ice plant.

Monroe—Ice and Cold-storage Plant.—Consolidated Ice Co. will make enlargements and improvements to more than double present capacity of plant.

New Orleans—Drug Company.—R. Staig, J. G. Oliver, L. L. Rivet and others have incorporated the Rampart Avenue Pharmacy Co., Limited, with capital stock of $5000.

New Orleans — Machinery Works. — Tate, Jones & Co. of Louisiana, Limited, has been incorporated, with capital stock of $10,000, for manufacturing fuel-oil appliances, boilers and machinery of all kinds; John M. Tate, Jr., president, and Ernest D. Ivy, vice-president and secretary.

New Orleans — Drug Company. — C. R. Cockle, H. H. Waters and others have incorporated the Mays Drug Store, Limited, with capital stock of $10,000.

New Orleans—Exporting and Commission Company.—John Aspegren, A. P. Sanchez and others have incorporated Aspegren & Sanchez Co., Limited, for conducting exporting and commission business; capital stock $10,000.

New Orleans—Power-house.—Orleans Railroad Co. will probably add another unit of 600 kilowatts capacity to its power-house.

Plaquemine—Lumber and Shingle Mills.—Schwing Lumber & Shingle Co., incorporated as recently reported, has purchased McDonald Bros. & Wilson mill, and will add mill with capacity of 150,000 to 200,000 shingles per day; saw-mill will cut 40,000 feet per day. Address E. B. Schwing, secretary.*

Rayville—Ice Plant.—Charles Titche will, it is said, erect a 20-ton ice plant, and has not contracted for machinery.

MARYLAND.

Baltimore — Dredging.—Chartered: Risley Dredging Co., with capital stock of $20,000, by Elton Risley, John B. Norris, Jos. P. Gibson and others.

Baltimore—Novelty Works.—George Schneider Manufacturing Co. has been incorporated, with capital stock of $25,000, for manufacturing novelties. James H. Parrish, Jr., is president; C. M. Soper, secretary and treasurer, and George Schneider, manager.

Baltimore—Wire-fence Factory.—J. Russell Kelso, Chas. T. Crane, J. Kemp Bartlett, Albert S. J. Owens and Alfred N. Barber have incorporated Chandlee Wire Fence Co., with capital stock of $200,000, for manufacturing wire fencing.

Baltimore—Mining.—Chartered: Druid Mining Co., with capital stock of $50,000, under Delaware laws, to acquire and operate mines in Maryland.

Baltimore — Car-coupler Works.— Incorporated: Kreitz Car Coupler Co., with a capital stock of $150,000, for manufacturing and selling the Kreitz car coupler, by Forest M. Kreitz and Jacob F. Kolatz of Bethlehem, Pa.; Henry S. Brewington, Peter G. Nelson and John S. Marquette of Baltimore.

Baltimore—Workshop.—M. E. Hecht will erect a two-story brick workshop to cost $1000.

Cumberland—Steel Plant.—Maryland Sheet & Steel Co., recently reported organized, has incorporated, with capital stock of $100,000, and H. H. Dickey, president-manager; A. F. Baumgarten (of Pittsburg, Pa.), vice-president and purchasing agent, and Harry E. Weber, secretary. Company has purchased for $65,000 the Crucible Steel Co.'s plant, which it will overhaul and improve, installing new machinery for the production of 9000 tons of sheet steel annually.

Hagerstown—Knitting Mill.—J. Irwin Bitner and H. J. Crosson of Hagerstown have leased the Valley Hosiery Mills at Mechanicsburg, Pa., and will remove same to Hagerstown, there to enlarge and introduce lace manufacture.

Hagerstown—Wire Screen-door Factory.—J. F. Horton, manufacturer of iron beds, will establish a wire screen-door and window factory.

Hyattsville — Broom Factory.—Hyattsville Manufacturing Co. has been organized for the establishment of a broom factory, as recently reported. Chas. A. Wells is president; W. P. Magruder, vice-president, and F. J. Robinson, secretary and treasurer.*

Washington, D. C.—Ice Factory.—Washington Ice Co. has organized, with capital stock of $25,000, and purchased site for $15,000 on which it will erect a $100,000 ice factory. Dr. R. H. Graham is president; Geo. P. Robinson, vice-president, and W. S. McKean, secretary.

MISSISSIPPI.

Bexley—Lumber Company.—Diamond Lumber Co. has been incorporated, with capital stock of $25,000.

Corinth—Ice Plant.—J. W. Taylor has contracted for installation of a 35-ton ice plant.

Gulfport—Docks, etc.—Gulf & Ship Island Railroad Co. is improving its harbor and docks, preparing to expend about $2,000,000. Company was reported some time ago as to erect coal elevator sixty feet high to handle 40,000 tons per hour.

Hazlehurst—Electric-light Plant and Waterworks.—Coleman & Malochee of New Orleans, La., have been engaged to prepare plans for the water-works and electric-light plant, for which $35,000 of bonds was recently reported as having been issued.

Meridian—Trunk Factory.—Meridian Trunk Factory, reported lately as incorporated, will shortly increase its capacity.

Poplarville — Saw-mill. — W. W. Lambert and H. E. Allen will rebuild their saw-mill recently burned; capacity will be 80,000 feet daily.

MISSOURI.

Boonville—Cider Mill.—C. C. Bell Fruit Co., reported recently as incorporated, succeeds the fruit business formerly conducted by C. C. Bell. Additional orchards will be planted and cider-making machinery installed.

Boonville—Ice Plant.—Wm. Duck of Quincy, Ill., and Harry Duck of Nevada, Mo., have contracted for erection of a $20,000 ice plant at Boonville.

Joplin—Brewery and Ice Plant.—Missouri National Brewing Co., recently reported incorporated, succeeds to the plant of the Joplin Brewing Co.; new company will erect brewery of 60,000 barrels per year capacity and a 75-ton ice plant (plate system). Address R. L. Dennison.*

Kansas City—Jewelry Company.—Chartered: Cady & Olmstead Jewelry Co., with capital stock of $100,000, by L. S. Cady, Chauncey Olmstead and others.

Kansas City—Boiler Works.—Uric Boiler & Machine Co. will install complete boiler-making plant in its machine works.

Kansas City—Telephone System.—Kansas City Home Telephone Co., with capital stock of $50,000, has been incorporated by E. L. Barber, O. C. Snider, John Enoch and others.

Kansas City—Mining.—Chartered: Mineral Gulch Mining Co., with capital stock of $3000, by W. W. Loveless, C. F. Miller, F. B. Williams and others.

Kansas City—Telephone System.—Missouri & Kansas Telephone Co. will expend $1,000,000 in improving its system in Kansas City and Kansas. Plans are being prepared for remodeling building in Kansas City; N. R. Ferguson, secretary.

Kansas City—Ice Plant and Cold-storage Warehouse.—Kansas City Ice & Cold Storage Co. will enlarge its ice plant and erect a cold-storage warehouse with 1,500,000 cubic feet of space.

Kansas City—Oil Company.—North American Crude Oil Co. has been organized, with capital stock of $1,000,000, by W. C. Renfrow, president, of Oklahoma City, O. T.; J. W. Swofford of Kansas City, vice-president; W. A. Rule of Kansas City, treasurer, and A. S. Kimberly, secretary.

Kansas City—Cotton Mill.—John Mulholland and associates contemplate building a cotton mill.

Kansas City—Ice Plant.—Kansas City Ice Co. will, it is reported, increase capacity of its plant from 300 to 500 tons per day.

Kirkwood—Water-works.—City has decided by vote to issue $25,000 of bonds for construction of water-works previously reported. Address "The Mayor."

Louisiana—Charcoal Plant.—Charcoal plant has been located, as recently reported, and interested parties expect to have twenty kilns in operation by spring. Address E. A. Glenn, secretary Louisiana Business Association.

Salem—Mining.—Salem Copper & Mining Co. has been incorporated, with capital stock of $24,000, by E. L. Dye, W. L. Hayle, J. R. Ray and others.

Springfield—Mining.—B. C. Stone Mining Co. has been chartered, with capital stock of $350,000, by R. C. Stone, C. A. Barnard, Eva E. Stone and others.

Springfield—Ice Plant.—Springfield Brewing Co. will increase capital stock from $30,000 to $75,000 and expend $20,000 in enlarging and improving its ice plant.

Springfield—Ice Plant.—J. M. Yarbrough, A. D. Allen, J. S. McLemore and others have organized stock company for erection of a 25-ton ice plant and cold-storage warehouse.

St. Louis—Ice Plant.—W. J. Lemp Brewing Co. will erect $20,000 building to be equipped as an ice plant.

St. Joseph—Clothing Company.—Chartered: Plymouth Clothing Co., with capital stock of $25,000, by H. A. Auerbach, H. A. Guettel, M. A. Mayer and others.

St. Louis—Electric-light and Power Plant. Citizens' Electric Lighting & Power Co. has completed plans for erection of its proposed $2,000,000 electric-lighting and power plant.

St. Louis—Building Company.—Chartered: Brewster-Ames Building Co., with capital stock of $5000, by Roscoe Brewster and others.

St. Louis—Paint Company.—Wing Fireproof Paint Co., with capital stock of $25,000, has been incorporated by Geo. W. McCreary, T. C. Wing, J. W. Kerr and others.

St. Louis—Tailoring.—Mills & Averill Tailoring Co. has been incorporated, with capital stock of $150,000, by A. E. Mills and others.

St. Louis—White-lead Works.—Union Lead & Oil Co. will erect white-lead works with capacity of 15,000 tons.

St. Louis—Electric-power Plant.—Contract for erection of the electric-power plant for the World's Fair will shortly be awarded; plant will be of 31,000 horse-power. Address Director of Works Isaac S. Taylor, 111 Fifth avenue.

NORTH CAROLINA.

Asheville—Furniture Factory.—Chartered: Lubin-Schiller Furniture Co., with capital of $25,000, by J. Lubin, J. Schiller, S. Wittowsky and J. W. Ramsey.

Biscoe—Lumber Company.—Biscoe Lumber Co., with capital of $100,000, has been incorporated by W. W. Mills, J. N. Holloway and J. F. Holloway.

Elizabeth City—Water-works.—City will construct system of water-works, and M. N. Sawyer, Fred Davis and A. L. Pendleton have been appointed a committee; T. B. Wilson, mayor.

Greensboro—Water-works Improvement.—The water and light commission has contracted with Jackson Filter Co. of St. Louis, Mo., for two filters with capacity of 1,000,000 gallons each, for improving water-works system.

Hickory—Stables.—Henkel Bros. Stock Co. will be formed by Vance Henkel and others for establishing and conducting three large sales stables at Hickory, Statesville and Durham. Capital stock is $75,000. Hickory will be principal office.

High Point—Furniture Factory.—John G. Bryce, A. L. Smith, J. A. Hobgood and others have incorporated Continental Furniture Co., with capital stock of $30,000, and privilege of increasing to $100,000.

High Point—Glass Works.—It is said that the Pittsburg (Pa.) Plate Glass Co. considers High Point a favorable site for its proposed branch works.

High Point—Wheel Works.—H. L. Bickford and others of Concord, N. H., will establish a $30,000 plant in High Point for the manufacture of carriage, buggy and wagon wheels.

High Point—Woodworking Factory.—High Point Buggy Co. has been organized, with capital stock of $125,000, by J. Elwood Cox, president; Wescott Roberson, vice-president; H. A. White, secretary and treasurer, for establishment of woodworking factory.

High Point—Soap Factory.—Davis Bros. will erect a soap factory.

Huntersville—Cotton Mill.—Anchor Mills will increase capital from $50,000 to $200,000; now has 4100 spindles.

Maxton—Electric Plant.—Chartered: Carolina Electric Co., capitalized at $50,000, by W. S. McNair and others, to furnish electric light, heat and power.

McDowell County—Saw-mills, Timber-land Development, etc.—A. H. Potter of A. L. Potter & Co., Norwich, Conn., has purchased 120,000 acres of timber lands in McDowell county and will erect saw-mills for developing the property.

Mt. Pleasant—Flour Mill.—Cook & Foil will erect 40-barrel flour mill, for which contract has been let.

Oxford—Mercantile.—S. S. Parham and others have incorporated the Parham Bros. Company, with capital stock of $12,000.

Raleigh — Machine Shops.—Seaboard Air Line will install additional machinery for increasing capacity of its Raleigh shops; John Skelton Williams, president, Richmond, Va.

Raleigh—Water-works.— Ernest Haywood, Moses W. Woodward, L. A. Mahler, John W. Cross and others have incorporated Wake Water Co., with authorized capital of $101,000, to acquire the water-works plant of the Raleigh Water Co.

Raleigh—Flour Mill.—Farina Milling Co. has been incorporated for the manufacture of flour and other products from cereals, with capital stock of $30,000, by Wallace de Rendeau, W. H. Blalock and Chas. E. Smith.

Rockingham—Cotton Mill.—D. L. Gore of Wilmington, N. C., has bought Great Falls Manufacturing Co.'s cotton mill for $37,245, and it is reported will expend $40,000 for improvements.

Salisbury—Furniture Factory.—Chartered: Brown Furniture Co., with capital stock of $50,000, by W. F. Snyder, J. S. Brown, W. H. Miller and others.

Shelby—Corn and Flour Mill.—J. C. Beam has purchased a water-power, and will establish a corn and flour mill and cotton gin.

Southern Pines—Violin Factory.—Mr. Roberts may possibly erect a factory for the manufacture of violins.

Williamson—Land Improvement.—Williamson Land & Improvement Co. has been incorporated, with capital stock of $25,000, by Jos. G. Godard, A. E. Whitmore and W. C. Manning.

Wilmington—Ice Plant.—Independence Ice Co., lately reported, has incorporated, with capital stock of $40,000 and privilege of increasing to $100,000, and purchased machinery for ice plant of seventy-five tons daily capacity. J. A. Springer, W. G. Whitehead, R. E. Wallace and others of Wilmington, and L. H. Simmons of Rocky Mount, N. C., are incorporators.

SOUTH CAROLINA.

Mullins — Warehouse Company.—Planters' Warehouse Co. has increased capital from $2000 to $9000.

Orangeburg — Agricultural-implement Works.—Thos. E. Hoffman, J. B. Outland, J. G. Wannamaker and M. O. Dantzler have incorporated Southern Metal Works, with capital stock of $10,000, to manufacture sheet-iron and rod-iron products and agricultural machinery.

Union—Foundry and Machine Shops.—W. M. Morse of Gaffney, S. C., is building iron foundry and machine shops in Union.

TENNESSEE.

Bristol—Foundry and Machine Shops.—Enterprise Foundry Co. has leased its machine and boiler shops and brass foundry to Bateman & Frost, who will conduct this part of the business. Bateman & Frost are building an addition which includes boiler plant. Enterprise Company will continue manufacture of stoves and repair work, but the interests of the two companies will be reciprocal.

Bristol—Carriage and Wagon Factory.—Hamilton, Bacon & Hamilton will install plant for manufacture of buggies, surreys, spring wagons, etc., as recently reported.*

Bristol — Woodworking Factory. — Bristol Planing Mill Co. has been incorporated by J. W. and J. L. Godsey of Gate City, P. W. Bevins of Hiltons, W. T. Tinsley and J. H. Higgins of Bristol for establishment of planing mill and general woodworking plant. Machinery of Godsey Bros. will be removed from Gate City, Va., and placed in buildings at Bristol when completed.

Brownsville — Spoke Factory. — Hatchie Manufacturing Co. has purchased 4566 acres of land in the Hatchie river district, and will utilize the timber in spoke manufacturing.

Bryant—Flour Mill.—Bryant Milling Co. is erecting new flour mill.

Chattanooga —Telephone System.—Wilcox Conduit Co. has completed organization with M. T. Freeman, president; J. B. Whitehead, secretary, and J. W. Johnson, treasurer. New telephone exchange to cost $150,000 will be erected at once.

Chattanooga — Pea-huller Works.—Chattanooga Implement & Manufacturing Co. has purchased controlling interest of Gardner & Co. in the manufacture of the Dixie pea-huller and will erect a new addition for the manufacture of these machines 80x200 feet.

Chattanooga—Knitting Mills.—It was the Richmond Hosiery Mills of Rossville, Ga., near Chattanooga, and not the Richmond Spinning Co. of Chattanooga, that consolidated with the Ocoee Hosiery Mills of Chattanooga, as reported several weeks ago.

Chattanooga—Plow Works.—Dixie Reversible Disc Plow Co. (recently established) will install additional machinery for increasing capacity of plant.

Dyersburg—Electric Plant and Water-works.—City will vote January 2 on issuance of $50,000 of bonds for buying and improving present system of water-works and lights. Address "The Mayor."

Harriman—Coal Mines.—Judge John H. Hatfield has purchased coal properties and will develop same.

Memphis—Cotton-oil Mill.—Swift & Co. of Chicago will establish a refinery in Memphis at a cost of $100,000 to make cotton suet out of crude cottonseed oil.

Memphis—Grain Elevator.—Webb & Maury, 348 Front street, are erecting grain elevator, as recently reported; storage capacity will be 25,000 to 30,000 bushels; machinery has been contracted for that will handle about 6000 bushels per hour; the plant will cost $30,000.

Memphis—Clothing Factory.—U. S. Rogerson, J. M. Speed, N. S. Graves, Guy Hunt and others have incorporated the U. S. Rogerson Co., with capital stock of $12,000, for conducting general clothing business.

Memphis — Hardwood Mills. — Chartered: Bennett Hardwood Lumber Co., with capital stock of $55,000, by E. T. Bennett, J. N. Penrod, F. P. Abbott and others for the manufacture of lumber, etc.

Memphis—Packing and Cold-storage Plant. Schwarzschild & Sulzberger Co. of Chicago, Ill., will expend $100,000 in establishing a meat-packing and cold-storage plant at Memphis.

Murfreesboro—Cotton Gin.—Efforts are being made to organize company for establishment of co-operative cotton gin. Those interested are Z. T. Dismukes, J. M. Ring, Irvin Elam and others.

Nashville — Real-estate Company. — E. B. Stahlman, J. H. Reeves, G. N. Tillman, J. E. Gilbert and others have incorporated the Vauxhall Real Estate Co.

Nashville — Engine Company.— Chartered: Menges Engine Co., with capital stock of $5000, by A. C. Menges, W. E. Graves, J. S. Moody and others.

Paris—Foundry.—J. E. Johnson, W. S. Counsell, J. R. Province and Lewis Compton have incorporated Paris Manufacturing & Implement Co., with capital of $15,000, for conducting foundry.

Sweetwater—Door-check Factory.—W. L. Wallace, James May, J. H. McCaslin and others will organize company to establish plant for manufacturing patent door-check.

Windle—Flour Mill.—James Garrett has awarded contract for 40-barrel flour mill.

TEXAS.

Alto—Packing-houses, etc.—Roland Morrill of Benton Harbor, Mich., and others have purchased 9000 acres of land in Cherokee county, which they will devote to fruit-growing; company will also establish packing-houses, etc.

Austin — Chemical Manufacturing.— Chartered: American Icthyol Co., with capital stock of $7000, by Theo. Low, Jasper Woolridge and A. C. McLaughlin, to manufacture and sell sulpho-icthyol of ammonia.

Beaumont—Oil Refinery.—Neches Oil Refining Co., reported recently as incorporated, will establish an oil refinery. Address D. O. Lively.

Beaumont—Paint Works.—Texas Oil, Paint & Varnish Co. has incorporated, as recently reported, for manufacture of paint, etc. Address C. L. Wallis.

Beaumont — Ice Plant. — Beaumont Ice, Light & Refrigerating Co. has purchased site on which it will erect its proposed additional ice plant.

Beaumont—Oil and Transportation Com-

pany.—Beaumont Oil & Transportation Co. will apply for charter under New Jersey laws. Oil will be transported from Gulf of Mexico to New York, Boston and Philadelphia. Capital stock is $2,500,000.

Beaumont—Builders' Supply Company.—Texas Builders' Supply Co., with capital stock of $10,000, has been incorporated by H. G. Brown, D. Call and Sam Park.

Beeville—Ice Plant.—Beeville Light & Water Co. will establish an ice plant in connection with its power-house.

Belton—Bridge.—A bridge, 250 feet span, will be constructed over Leon river for an interurban electric road being constructed at Belton. Address J. M. Carter, manager, 294 Exposition avenue, Dallas, Texas.*

Brenham—Cotton Mill.—D. C. Giddings, Jr., R. A. Schurenberg and F. W. Wood will organize company to build cotton mill.

Bryan—Oil Wells.—Douglas Oil Co. has been incorporated, with capital stock of $100,000, by J. D. Evans, president; J. D. Weldon, secretary, and A. M. Custer, treasurer, all of Johnstown, Pa.

Conroe—Mercantile.—Chartered: W. P. Terrell Co., with capital stock of $10,000, by H. H. Roberts, W. J. Montgomery and W. P. Terrell.

Dallas—Gin Works.—The Murray Company, manufacturer of cotton gins, etc., will erect new gin shops at a cost of $150,000, which will more than double the capacity of the present plant. First building to be erected will be three stories, of brick, 200x100 feet.

El Paso—Land Company.—Franklin Heights Land Co. has been incorporated, with capital stock of $40,000, by A. P. Coles, J. F. Cates and W. W. Turney.

El Paso—Foundry and Machine Shops.—El Paso Foundry & Machine Co. has increased capital from $50,000 to $100,000, as recently reported, will enlarge foundry and install additional machinery in its machine shops.

El Paso—Brewery.—Chamber of Commerce is corresponding with a St. Louis (Mo.) party relative to the location of a $150,000 brewery.

El Paso—Knitting Mill.—Wm. J. Magee of New Iberia, La., has addressed the Chamber of Commerce relative to establishing in El Paso a $15,000 knitting mill for cotton and wool.

Kenedy—Cotton-oil Mill.—Mr. Cook is preparing for erection of a cottonseed-oil mill.

Lakeside—Sugar Refinery.—Lakeside Sugar Refining Co. has increased capital stock from $200,000 to $300,000.

La Porte—Cotton Mill.—Endeavors will be made for the erection of a cotton mill. G. E. Kepple can give information.

Llano—Water-works Improvement.—City has contracted with the Llano Water, Light & Power Co. for hydrants for fire protection, which will necessitate increase and extension of mains and additional pumping capacity.*

Orange—Electric Plant, Ice Plant, Water-works, etc.—Orange Ice, Light & Water Co. will enlarge its ice plant by installation of a 20-ton machine, enlarge its electric-light plant and extend its system of water-works; oil will be used as fuel; J. W. Link, president.

Orange County—Irrigation Systems.—Forward Reduction Co., 27 William street, New York city, has purchased 5000 acres of rice land in Orange county, as lately reported, and expects to extend the canals and bring 1000 or 1500 additional acres into rice cultivation; company is also enlarging the canal on 7000-acre tract recently purchased in Jefferson county, and will extend the laterals so as to put in from 2000 to 3000 additional acres the coming season.

Port Arthur—Oil Refinery.—Gulf Refining Co., with capital stock of $750,000, has been incorporated by J. M. Guffey, A. W. Mellon and James H. Reed of Pittsburg, Pa.; D. Robertson of Port Arthur and others, for erecting two large oil refineries and steel storage tanks at Port Arthur, with an aggregate capacity of more than 100,000,000 barrels of oil; plants will be located on 500 acres of land adjoining the two refineries now in process of construction.

San Antonio—Furniture Company.—G. A. Stowers Furniture Co. has been incorporated, with capital stock of $150,000, by G. A. Stowers, M. P. Strickland and M. A. Clower.

Timpson—Lumber Mill.—Morris & Victory will rebuild their lumber mills, recently reported burned.

Wallace Station—Irrigation System.—C. H. Twining of Danvers, Ill.; Isaac Strong of Chicago, H. B. Montgomery and George Stringfield of Bloomington, Ill., and Milton Harness of Lexington, Ill., will expend $500,000 in constructing an irrigation system at Wallis with capacity for watering 30,000 acres.

Wolf City—Electric-power Plant.—Wolf City Electric Light & Power Co. has been incorporated, with capital stock of $10,000, by C. R. Seltzer, W. R. Seltzer and I. Jacobs.

VIRGINIA.

Alexandria—Locust-pin Factory.—Virginia Locust Pin Co. has been incorporated, with capital stock of $5000, for manufacturing telegraph poles, locust pins, railroad ties, etc., by D. W. Bailey of Elkins, N. C., president; J. Clinton Smoot of Alexandria, vice-president, and Henry Smoot of Sperryville, Va., secretary and treasurer.

Auburn Mills—Flour Mill.—M. M. Terrell will install rollers, using the sieve sifter system.

Lynchburg—Water-works.—New machinery reported lately to be installed in the water-works includes two 100-horse-power boilers and a 3,000,000-gallon water-power pump and turbine wheel for same; W. C. N. Randolph, superintendent.

Newport News—Construction.—Chartered: Home Construction Co., with capital stock of $5000, by J. A. Summerville (president) and others.

Norfolk—Live-stock Company.—Smyth Brothers-McCleary & McClellan Live-Stock Co. has been incorporated, with capital stock of not less than $10,000 nor more than $25,000, by A. L. McClellan, president; E. A. Smyth, vice-president, and J. C. Smyth, secretary and treasurer.

Norfolk—Marine-railway Plant.—Allen & Weaver will remove their marine-railway plant from Berkley to Norfolk and enlarge same.

Norfolk—Shipyards.—It is reported that the Degnon-McLean Contracting Co. of New York city will build a shipyard at Norfolk.

Pulaski City—Oil Wells.—Pulaski Oil & Gas Co. has been organized, with L. P. Stearnes, president; Geo. M. Holstein, vice-president, and B. B. Garnett, secretary, for drilling oil wells. Capital stock is $15,000.

Richmond—Yarn or Knitting Mill.—It is proposed to establish a yarn or knitting mill. Information can be obtained by addressing "Manufacturer," Box 901.

Richmond—Water Supply.—A company is organizing to make a proposition to the city for establishing system of pure water, supply to be taken from James river. William P. De Saussure may be addressed.

Tomsbrook—Lime Works, Stave Factory, etc.—A company, with capital of $25,000, has organized and purchased lime works and mercantile business of M. L. Bauserman, including storeroom and factory building used in manufacture of staves and barrels; additional kilns will be erected and other improvements made.

WEST VIRGINIA.

Bentons Ferry—Brick and Plaster Works.—Lilley Brick & Plaster Co. has been incorporated by George Lilley, F. C. Martin, Perry Thompson and John A. Clark of Fairmont, W. Va., and G. W. Wentz of St. Marys, W. Va., for erection of brick and plaster works near Bentons Ferry.

Cameron—Water-works.—City will advertise for bids on construction of a system of water-works. Address "The Mayor."

Charleston—Oil Wells.—Edward H. Holden of New York, Daniel R. Chichester of Brooklyn, N. Y., and others have incorporated Standard Petroleum Co., with capital stock of $1,000,000, for dealing in oil and oil lands. Principal office will be in New York.

Charleston—Fire-brick Works.—Kanawha & New River Brick Co., reported recently as incorporated for the manufacture of fire-brick, should have read the Kanawha & New River Fire-Brick Co.

Charleston—Planing Mill.—Kanawha Planing Mill Co. has been incorporated, with capital stock of $25,000, by J. W. Graham, L. E. Burdett, W. H. Wells and others.

Charleston—Land Company.—King Land Co., with capital stock of $150,000, has been incorporated by James A. Holly and others to conduct general mining, manufacturing and lumber business.

Charleston—Electric-light and Power Plant, Gas Plant and Water-works.—George E. House, John B. Garden, C. M. Oliver, John A. Howard and George Baird, all of Wheeling, have incorporated Charleston Water, Gas & Electric Co., with capital stock of $1,000,000, for maintaining and operating water-works, electric-light and power plants and gas works, and to furnish water, gas, light and power to the city of Charleston. Principal office will be in Wheeling.

Clarksburg—Candy Factory.—Candy factory will probably be erected. Address secretary "Board of Trade."

Fairmont—Power-house.—Fairmont & Clarksburg Electric Railway Co. will enlarge its power-house by installation of sufficient machinery for handling twenty-five cars.*

Fairmont—Palatine Mine.—Fairmont Coal Co. is preparing to open mine recently shut down on account of fire; many improvements have been made.

Fairmont—Grain Elevator.—Miller-Clark Company is building grain elevator, as recently reported.*

Horton—Coal Mines.—Sam K. Wilson has discovered and will develop coal deposits.

Horton—Coal Mines.—Samuel K. Wilson has discovered coal on his property, and will develop it.

Hurst—Oil Wells.—J. W. Ross and E. G. Davisson of Weston, W. Va., have sold oil properties near Hurst, W. Va., to the amount of $65,000 to parties who will inaugurate extensive developments.

Martinsburg—Coal Mines, etc.—Dr. A. Andrews, S. S. Felker, M. L. Dorn, C. M. Lamar and E. D. Gardner have organized Berkeley Orchard & Mining Co. and purchased for $2100 469 acres of land, which they will mine for coal and cultivate for apples.

Moundsville—Paper Mill, etc.—Ruppert Manufacturing Co., manufacturer of paper and lithographer, will establish a plant at Moundsville. Address care "Board of Trade."

Parkersburg—Forge Mill.—Parkersburg Iron & Steel Co. has commenced erection of $100,000 forge mill, an addition to its present steel mill now being completed; contract for buildings awarded.

Stout's Mills—Flour Mill.—W. F. May of Chicago and Bert May have purchased flour mill at Stout's Mills and will install additional machinery for increasing capacity and operating by steam instead of water power.

INDIAN TERRITORY.

Colgate—Asphalt Mine.—Adolphus Busch of St. Louis, Mo., and C. W. Baxter of East St. Louis, Ill., have purchased asphalt property in Choctaw Nation from George Moulton of Colgate and associates, and will organize a stock company for operating it.

Marble—Marble Quarries.—Beaumont Marble & Supply Co., reported lately under Beaumont, Texas, as incorporated for quarrying, will operate near Marble. C. E. Shannon, secretary, may be addressed at Beaumont, Texas.*

OKLAHOMA TERRITORY.

El Reno—Electrical Supply Company.—M. F. Pettie, S. B. Pettie, H. B. Hazleton and others have incorporated El Reno Plumbing & Electrical Supply Co., with capital of $3000.

El Reno—Ice Plant.—Schlitz Brewing Co. of Milwaukee, Wis., is erecting a two-story brick structure to be equipped as ice and cold-storage plant with capacity of thirty tons of ice per day.

Hennessey—Oil and Gas Wells and Coal Mines.—Hennessey Prospecting Co. has been incorporated to prospect for oil, gas and coal, by A. W. Westlake, A. E. Lane, H. L. Miles, Fred Ehler and others; capital stock is $50,000.

Hobart—Publishing.—Chief Publishing Co., with capital stock of $25,000, has been incorporated by H. L. Standeven, A. J. Dunlap, W. J. Smith and others.

Lawton—Oil and Gas Wells.—Chartered: Eureka Oil & Gas Co., with capital stock of $500,000, by Ernest E. Halmer, J. S. West, L. S. Eckles and others.

Lawton—Mining.—Kiowa Chief Oil & Mining Co., with capital stock of $1,000,000, has been incorporated by Geo. W. McCoy, Wm. M. Buell, B. G. Thomas, Chas. A. Fewell and others.

Lawton—Mining.—Chartered: Lawton-Denton Mining Co., with capital stock of $1,000,000, by P. C. Withers, O. P. Poe, S. P. Odell, all of Denton, Texas; C. A. Fewell, J. C. Shipley of Lawton and others.

Lawton—Wood and Coal Company.—Chartered: Lawton Wood & Coal Co., with capital of $2000, by Royal Wheeler of Dallas, Calvin B. Lloyd and Jesse K. Lloyd of Lawton.

Mangum—Ice Plant.—S. Heatley of Mangum and J. E. Pace of Baird, Texas, will erect a 15-ton ice plant at Mangum.

Shawnee—Land Company.—Territorial Land Co., with capital of $10,000, has been incorporated by H. B. Dexter, M. J. Bentley, J. M. Aydelotte and others.

BURNED.

Ararat, Miss.—W. W. Craft's cotton gin.

Atlanta, Ga.—Atlanta's crematory, leased by Lester Furnace Co.; loss $15,000.

Boardman, N. C.—Store and offices of Boardman Lumber Co.; estimated loss $20,000.

Branch, La.—Edgar Barousse's cotton gin; estimated loss $10,000.

Brenham, Texas.—A. W. Watson's cotton gin.

Demopolis, Ala.—Spraggins & Son's saw-mill; estimated loss $5000.

Ellicott City, Md.—E. Fleming's saw-mill; estimated loss $2500.

Greenville, S. C.—Alfred Tanner and S. G. Black's cotton gin.

Ida, La.—T. P. Himel's sugar-house; loss $50,000.

Napoleonville, La.—Talesfore Rodriguez's sugar-house; loss $20,000.

Napoleonville, La.—Taylor Himel's sugar-house; estimated loss $50,000.

Richmond, Va.—Planing mill and dry-kilns of W. J. Whitehurst; estimated loss $30,000.

Small, Ga.—E. A. Jones' cotton gin; estimated loss $1500.

Sumter, S. C.—Atlantic Cotton Oil Co.'s cotton gin; estimated loss $2000.

Talladega, Ala.—W. B. Wallace & Co.'s cotton gin.

Tallahassee, Fla.—William Geddie's cotton gin; loss $2000.

Townsend, N. C.—L. H. Townsend's cotton gin.

Whitewright, Texas.—North Texas Construction Co.'s storage-house.

Winnsboro, Texas.—W. S. Glenn's cotton gin; loss $3500.

BUILDING NOTES.

Abbeville, La.—School.—J. R. Kitchell, chairman school building committee, will open bids December 20 for erection of a $10,000 school building. Usual rights reserved.

Atlanta, Ga.—Garbage Crematory.—Lester Furnace Co. will rebuild at once its crematory, reported burned.

Austin, Texas—School Building.—H. P. Hillard, president of trustees, Deaf and Dumb Asylum, will open bids December 10 for erection of school building. Plans and specifications may be seen and forms of proposals had at office of Olle J. Lorehn, Binz Building, Houston; J. L. O'Connor, Sampson Building, Austin, and of Builders' Exchange, Dallas and San Antonio. Work will be let in three separate parts as follows: General work, plumbing, sewering and electric wiring and heating. Certified check for 5 per cent. of total amount of bid required; usual rights reserved.

Baltimore, Md.—Synagogue.—The synagogue reported recently to be built by Shearith Israel Hebrew Congregation will be of granite, 54x90 feet, seating capacity 475. Louis Levi is preparing plans.

Baltimore, Md.—Warehouse.—Henry S. Ripple has received contract for erection of proposed warehouse of Resinole Chemical Co.; building will be of brick and stone, 30x167 feet, and cost $12,000.

Baltimore, Md.—Market.—Henry W. King and Chas. Behn are interested in a plan to invest $100,000 in the construction of a market-house.

Baltimore, Md.—Bank Building.—Douglas H. Thomas, Jr., of Baltimore and J. Harleston Parker of Boston have received contract for furnishing plans for proposed building of the International Trust Co., recently reported.

Baltimore, Md.—Office Building.—Robert Garrett & Sons have purchased site on South street for $50,000, and propose to erect an eight or nine-story office building.

Baltimore, Md.—Church.—Contract for erection of South Baltimore branch of Calhoun Street Church of Disciples has been awarded to B. W. & E. Minor; building will be one story, of brick, 46x70 feet.

Beaumont, Texas—Office Building.—John N. Gilbert will erect a five-story brick office building, to be steam-heated, etc., and cost $40,000.

Cartersville, Ga.—Depot.—Nashville, Chattanooga & St. Louis Railway has had plans made for erection of depot at Cartersville. J. W. Thomas, Jr., Nashville, Tenn., is general manager.

Charleston, W. Va.—Hotel.—Hotel Kanawha Co. has been incorporated, with capital stock of $100,000, by E. W. Staunton, W. M. O. Dawson, Frank Woodman and others for erection of a hotel.

Charlottesville, Va.—Residence.—E. O. Meyer of Richmond has had plans made by D. Wiley Anderson, and has awarded contract to J. T. Nichols for erection of a $30,000 residence near Charlottesville.

Chattanooga, Tenn.—Business Building.—

P. C. Wilson has had plans made by Adams & Schneider for erection of two-story brick business building.

Crowley, La.—Buildings.—W. L. Stevens, Jennings, La., is preparing plans for Masonic building to cost $7000 and a Methodist church to cost $20,000 at Crowley, and wants proposals at once for construction of same.

Crowley, La.—Courthouse.—Plans for proposed courthouse at Crowley of J. Riely Gordon Co. of Dallas have been accepted, as reported lately; building will be let by contract, and is to cost $75,000.

Dallas, Texas—Clubhouse.—Elks' Building Association has organized, with capital stock of $35,000, and Chas. A. Rasbury, president, for erection of three-story building lately reported for Dallas Lodge, No. 71, B. & P. O. E.

Eatonton, Ga.—Courthouse.—Putnam county will vote December 17 on issuance of $30,000 for erection of new courthouse. Address "County Clerk."

El Paso, Texas—Hotel.—Plaza Hotel will be enlarged and remodeled; one story will be added and steam heat installed.

El Paso, Texas—Hotel and Theater Building.—Bailey Bros. will erect a four-story hotel and theater building to cost $150,000 and have all modern improvements.

El Reno, O. T.—Courthouse.—County has voted issuance of $65,000 of bonds for erection of new courthouse. Address "County Clerk."

Fairmont, W. Va.—Theater.—Nelson & Gallagher, owners of Madison Street Opera-House (lately burned), will organize company for rebuilding; will cost $25,000.

Fitzgerald, Ga.—Stores and Hotel Building. F. J. Hanson has plans out for three fireproof stores and hotel building.

Galveston, Texas—Church.—C. W. Bulger has completed plans for new building of First Baptist Church, of brick, two stories, 70x100 feet, and cost $25,000.

Gonzales, Texas — Opera-house.—Gonzales Lyceum contemplates erecting a $20,000 opera-house.

Gulfport, Miss.—Bank Building.—Bank of Commerce has awarded contract for erection of its proposed two-story building.

Houston, Texas — Buildings. — Chartered: Home Building Co., for erection of dwellings, etc., with C. W. Hahl, president.

Jasper, Tenn.—Warehouse.—W. R. Fuller & Co. are erecting warehouse.

Jennings, La.—Buildings.—W. L. Stevens has been awarded contracts for erection of the following buildings: Two-story store and office building 100x133 feet for A. D. McFarlain, to cost $40,000; two-story store and office building for Chas. Barker 44x100 feet, to cost $7000; office building for Rowson & Co., trimmed with stone and terra-cotta, to cost $9000; is also preparing designs for an implement store for Coffin & Jaenkie 44x175 feet, to cost $20,000; building for Jennings Banking & Trust Co., to cost $15,000; drug-store building for Mrs. E. M. Berke.

Knoxville, Tenn.—Store Buildings.—Col. W. A. Henderson will erect two store buildings.

Knoxville, Tenn.—Business Block.—Pickle, Turner & Maynard of Dandridge, Tenn., have purchased site in Knoxville, and will erect a block of six-story stores.

Martinsburg, W. Va.—Opera-house.—A. F. Lambert will erect a new opera-house.

Memphis, Tenn.—Freight Depots.—Illinois Central Railway will probably erect several additional freighthouses in Memphis; J. T. Harahan, second vice-president, Chicago, Ill.

Natchitoches, La.—Bank Building.—Exchange Bank will erect new building.

Pleasant Valley, W. Va. — Dwellings. — Architect Leiner, Peabody Building, Wheeling, W. Va., will prepare plans for thirty dwellings to be built at Pleasant Valley at a cost of $90,000.

Richmond, Va.—Store and Office Building. Tower-Binford Electric & Manufacturing Co. will erect store and office building to cost $5000.

Salado, Texas—College.—W. R. Henderson and J. M. Scott of Belton have been awarded contract for rebuilding Salado College.

San Marcos, Texas—School.—Jos. D. Sayers, governor, et al., Austin, Texas, will open bids December 11 (instead of November 15, as reported in October) for erection of building for Southwest Texas Normal School.

Sparks, Ga.—Institute.—Plans and specifications have been accepted and bids are now being received for erection of a collegiate institute to be established at Sparks by the Methodist Church of Valdosta district; building will cost, exclusive of dormitories, $5000 to $8000. For further information address I. W. Purdon, president board of trustees, Sparks.

St. Louis, Mo.—Apartment-house.—Chas. K. Ramsey has completed plans for Northumberland Apartments, to be erected by Paul Jones and Harvey L. Christie at a cost of $65,000; improvements will include garbage crematory, refrigerating plant, etc.

Tunnelton, W. Va.—Depot and Office Building.—J. C. Tibbetts has drawn plans and specifications for erection of a three-story building to cost $20,000 for A. J. Bonafield, to be used as depot and office building.

Tuscaloosa, Ala.—Club Building.—Tuscaloosa Lodge of Elks has purchased site and will erect club and lodge building.

Washington, Ga.—Courthouse.—The plans of J. W. Golucke of Atlanta have been accepted for the proposed courthouse for Wilkes county, which will cost $40,000.

Waxahachie, Texas—University Building.—Hubbell & Greene, architects, North Texas Building, Dallas, Texas, will open bids December 6 at First National Bank, Waxahachie, for erection and completion of a three-story and basement brick building for Trinity University. Plans, specifications and bidders' sheet can be seen at office of F. M. Maxwell, Waco; Seth Stewart, Fort Worth; First National Bank, Waxahachie, and offices of architects. Certified check for $1000 required and usual rights reserved.

Wilson, N. C.—Hotel.—Wilson Hotel Co., with capital of $20,000, has been incorporated by William Cantwell and others.

Winchester, Va.—Bank Building.—The new national bank (organizing) will erect a $30,000 building; R. T. Barton, president.

Winchester, Va.—Chapel.—Mount Hebron Cemetery Co. has accepted plans for erection of new mortuary chapel to cost $10,000.

RAILROAD CONSTRUCTION.

Railways.

Abingdon, Va.—It is reported that the Virginia-Carolina Railroad and the Beaver Dam Railroad have been completed and opened for operation. The new line forms a connection between Abingdon and Crandall, Tenn., an estimated distance of twenty-six miles, of which the Virginia-Carolina road comprises about nineteen miles.

Ava, Mo.—W. J. Turner is president and C. G. McCloon, engineer of the Ava Northern Railroad, for which surveys have recently been completed. The estimated length of the line is fourteen miles.

Belton, Texas.—J. M. Carter, manager of the electric railway company which has secured a franchise for the proposed road between Belton and Temple, writes the Manufacturers' Record that the line will be laid with 60-pound T rails, and that it will be operated with four trains, each comprising three cars. Mr. Carter may be addressed at 294 Exposition avenue, Dallas, Texas.

Benton, Ark.—The Hot Springs Railroad Co. has been incorporated to build a road from Benton to Butterfield, an estimated distance of twenty miles. The cost of the line is calculated to be $300,000. It is understood that it will be a branch of the Choctaw, Oklahoma & Gulf system. F. A. Molitor of Little Rock is engineer.

Buford, Ga.—M. S. Garner, one of the promoters of the Cummings & Buford Railroad, writes the Manufacturers' Record that the projectors have secured a charter for an electric line. The distance is fifteen miles. There is a possibility that Forsythe county may issue bonds to aid the project if given legislative authority.

Cape Girardeau, Mo.—E. F. Blomeyer, secretary of the Cape Girardeau & Northern Railroad, informs the Manufacturers' Record that the company has been formed to build between Cape Girardeau and Crystal City, a distance of ninety miles. Surveys are now being made, and it is expected to let contracts to build at once. Mr. Newman Erb of 66 Broadway, New York, is president of the company, and S. E. Coombs at Cape Girardeau is chief engineer. Messrs. Erb and Blomeyer are interested in the Southern Missouri & Arkansas Railroad.

Dalton, Ga.—Surveys are now being made for an extension of the Dalton & Alaculsy Railroad to Murphy, N. C. A contract has been let for a portion of the line, which is partly completed between Dalton and Alaculsy. The road is being promoted by a company of which M. S. Squires of Binghamton, N. Y., is president.

Danville, Ky.—A company has been chartered to build a railroad between Danville, Junction City and Shelby City, which will be eight miles in length. The company is entitled the Electric Power & Railway Co., and includes Geo. F. Anderson and W. J. Price of Danville.

Ensley, Ala.—The Ensley Southern Railway, being completed from Ensley to Paris, a distance of thirty-five miles, it is expected will be in operation about January 1. It will form a branch of the Southern Railway system and reach coal lands in Jefferson county.

Fairmont, W. Va.—It is stated that track-laying upon the Fairmont & Clarksburg Railroad is to begin immediately, and that it is expected to have the line in operation by April 1 next. The necessary motors have been secured and about seven miles of the line completed. The promoting company is capitalized at $500,000. Henry Schmulbach of Wheeling, W. Va., is president of the company.

Fairmont, W. Va.—Henry Schmulbach, president of the Fairmont & Clarksburg Electric Railroad Co., writes the Manufacturers' Record that the total length of the line will be thirty-four miles, and about twenty-two miles remain to be completed. Only a portion of the rails and rolling stock have been contracted for. The road is to be completed as soon as possible.

Fort Smith, Ark.—In a letter to the Manufacturers' Record Mr. George Hayden, president of the Fort Smith & Western Railroad Co., writes that the length of the road will be 173 miles. Surveys have been made and contracts let for fifty-five miles. The road is to be completed within the next year, and the company is ready to make contracts for the remainder of the distance. J. J. Mahoney, general manager at Fort Smith, may be addressed.

Fort Smith, Ark.—A correspondent of the Manufacturers' Record writes that the St. Louis & San Francisco Railroad Co. is now making surveys for an extension of its Mansfield branch to Hot Springs, Ark. B. F. Yoakum at St. Louis is president of the company.

Georgetown, Ky. — Younger Alexander, president of the Georgetown & Lexington Traction Co., informs the Manufacturers' Record that it now has under construction twelve miles of road between the towns mentioned, and that it has also secured a franchise between Lexington and Paris. Surveys for the latter are now being made, and it is expected to begin construction in the spring. Mr. Alexander may be addressed at Brooksville, Ky.

Granby, Mo.—It is stated that the Missouri Pacific Railway Co. is constructing a branch from Granby to Scotland, a distance of ten miles, and that the necessary contracts have been let.

Gulfport, Miss.—Mr. Thos. P. Hale, vice-president of the Gulf & Ship Island Railroad Co., informs the Manufacturers' Record that improvements are now being made to various parts of the line, which comprises 253 miles, and that about $2,000,000 will be expended upon the terminals at Gulfport.

Jacksonville, Fla.—Wm. N. Lanehart and Hiram Hammond of West Palm Beach, Fla., are reported as interested in the Jacksonville & Lake Worth Railroad Co., recently incorporated in Florida to build a line from Jacksonville to a point near Lake Worth.

Johnson City, Tenn.—It is reported that parties from Knoxville, Tenn., are interested in a plan to build an electric street railroad in the town and suburbs.

Lancaster, Ky.—The Kentucky Southern Railway Co. has amended its charter to allow it to build a line from a connection with the Louisville & Nashville system to a point on the Cumberland river through portions of Laurel and Rockcastle counties. Among those reported as interested are L. F. Hubble and W. H. Kinnaird of Lancaster.

Lexington, Ky.—The fiscal court of Fayette county has granted franchises to the Bluegrass Traction Co. to build its proposed system of electric railways in the county. As already stated in the Manufacturers' Record, the company proposes constructing about 140 miles of trolley line in the State, and is capitalized at $7,000,000. Hon. Geo. B. Davis of Detroit and Hon. M. C. Alford of Lexington are among the promoters.

Lexington, Ky.—A correspondent of the Manufacturers' Record states that the articles of incorporation of the Bluegrass Traction Co. have been filed. This company intends building 140 miles of electric line, and includes Hon. M. C. Alvord of Lexington.

Marshall, Texas.—Mr. E. Walker, president of the Texas Southern Railroad Co., writes that this corporation owns three different lines, each about sixteen miles in length, and work is now in progress to connect the three, forming a route between Winnsboro and Marshall, a distance of seventy-six miles. All of the contracts have been let.

Martinsburg, W. Va.—It is reported that the Baltimore & Ohio Railroad Co. has decided to build a branch from a point near Martinsburg to limestone deposits in Berkeley county, and that surveys have been made. J. M. Graham at Baltimore is chief engineer.

Maryville, Tenn.—The promoters of the railroad in Blount county include W. B. Townsend of Clearfield, Pa., and W. A. Walton of Pittsburg, Pa. It is stated that Mr. Townsend is interested in the Little River Lumber Co., and that the road will reach timber lands in the valley which this company controls. The title of the company is the Little River Railroad Co., and it is proposed to build it to Bushnell, N. C., where connection will be made with the Southern system. It is stated that contracts are to be let immediately.

Mobile, Ala.—It is stated that the Mobile, Jackson & Kansas City Railroad will make a connection as soon as possible with the Kingston & Central Mississippi Railroad at Laurel. This line, which has been secured by the Mobile, Jackson & Kansas City, it is reported, is to be extended to Memphis, Tenn. The estimated length of the extension is 200 miles. Frank B. Merrill at Mobile is president and general manager of the company.

Moss Point, Miss.—A correspondent of the Manufacturers' Record writes that S. S. Bullis of Olean, N. Y., formerly general manager of the Gulf & Ship Island Railroad, has purchased the Moss Point & Pascagoula Railroad, and may extend it.

New Orleans, La.—The New Orleans & Mississippi Midland Railroad Co., formed to build between New Orleans and Pontotoc, Miss., is capitalized at $522,000. The officers which have been chosen are P. L. McCay, president; Robt. P. Duncan and C. S. E. Babington, vice-presidents; E. S. Ferguson, general manager, and G. E. Lehman, secretary and treasurer.

Newport, Tenn.—The latest report concerning the Tennessee & North Carolina Railroad is to the effect that trains are now in operation between Newport and Hartsville, a distance of twelve miles, and six miles have been completed. It is reported that the road will be built to Waynesville, N. C., as soon as possible, and that eventually a further extension will be constructed to a point on the Seaboard Air Line sixty miles distant from Waynesville. Messrs. Hart & Holloway of Wheeling, W. Va., are constructing the line.

Norfolk, Va.—It is announced that the Chesapeake Transit Company is to begin work immediately upon the steam railroad between Norfolk and Cape Henry. Among those interested is Thomas H. Wilcox.

Parkersburg, W. Va.—A correspondent of the Manufacturers' Record writes that the Little Kanawha Railroad Co. will probably build an extension about ninety miles in length from its present terminus, Palestine, W. Va., eastward. Jackson Blair is president of the company.

Pennsboro, W. Va.—It is stated that the owners of the Pennsboro & Harrisville Railroad have decided to extend it to Pullman, W. Va. M. K. Duty is president of the company.

Pensacola, Fla.—A report is current that the Georgia Southern & Florida Railroad Co. will extend its line from Valdosta, Ga., to Pensacola, and has secured the necessary terminals in Pensacola. Samuel Spencer, 80 Broadway, New York, is president, and Wm. Checkley Shaw at Macon, Ga., vice-president.

Rogers, Ark.—It is stated that a branch of the St. Louis & San Francisco Railroad will be built from Rogers to a health resort at Monte Ne, Ark., a distance of four miles. C. D. Purdon at St. Louis is chief engineer of the company.

Rusk, Texas.—It is reported that the St. Louis Southwestern Railroad Co. is considering another extension of its line in Texas which will terminate in the iron-ore territory in the vicinity of Rusk. F. H. Britton at St. Louis is president of the company.

Sedalia, Mo.—Rails are being received for the Sedalia, Warsaw & Southwestern Railway, which is being changed from narrow to standard gauge. It is in operation between Sedalia and Warsaw, a distance of forty-two miles, and is a portion of the Gould system.

St. Louis, Mo.—It is reported that the plan to build an elevated railroad in St. Louis and suburbs has been revived, and that Robert L. McLaren, an attorney of St. Louis, is preparing to organize a company to take up the project.

Tallulah Falls, Ga.—Surveys have been completed for the Blue Ridge & Atlantic Railroad between Tallulah Falls and Franklin, N. C. A. R. Gilchrist is engineer.

Taloga, Okla.—Surveys are to be made immediately of the route of the Taloga & Eastern Railway, recently referred to in the Manufacturers' Record, and it is stated that contracts will be let as soon as possible. The headquarters of the company will be at Taloga. Frank Rinehart of Guthrie, Okla., is one of the promoters.

Tampa, Fla.—It is announced that John P. Martin of Xenia, Ohio, who is promoting the

electric railroad in Western Florida between Tampa, St. Petersburg and several other towns, has given a contract for forty-three cars for the system, also for power-house machinery, to the Buckeye Engine Co. of Salem, Ohio, and the Aultman & Taylor Co.

Thurmond, W. Va.—Mr. S. M. Veail, treasurer of the Kanawha, Glen Jean & Western Railroad Co., writes that it is expected to build about fifteen miles of line south from Thurmond. Three miles of line have been built, and other work has been done at both ends of the route. It is expected to let the remainder of the contracts in the spring. Mr. Veail may be addressed at Chillicothe, Ohio.

Tuscaloosa, Ala.—The business men of Tuscaloosa are securing stock subscriptions in aid of the Birmingham & Vicksburg Railroad with a view to having it built by the way of Tuscaloosa.

Waycross, Ga.—The charter of the Waycross Air Line Company has been amended to allow it to build the proposed extension from Cordele to Birmingham, Ala., also to Atlanta, if the company desires. The title of the company has been changed to the Atlantic & Birmingham, and its capital stock increased to $7,000,000. George D. Wadley at Waycross is general manager.

Yorktown, Va.—The promoters of the railroad between Jamestown, Williamsburg and Yorktown have decided to open subscription books to the company's capital stock on December 24. Among those interested are L. H. Giddy and H. M. Phillips.

Yorktown, Va.—O. D. Jackson of Norfolk, one of the promoters of the railroad between Yorktown, Hampton, Jamestown and Williamsburg, in a letter to the Manufacturers' Record writes that it is expected to begin construction before January 1. The estimated mileage of the main line is forty-five. The syndicate in which Mr. Jackson is interested has secured the charters of the Yorktown, Poquosin & Hampton and the Jamestown, Williamsburg & Yorktown railways.

Street Railways.

Austin, Texas.—The Austin Street Railway Co. has decided to build an extension of its line about a mile in length to a point in the suburbs.

Berkley, Va.—The ordinance committee of the city council has presented a report favoring a franchise to the Norfolk Railway & Light Co. to extend its lines in the town limits.

Birmingham, Ala.—Robert Jemison, president of the Birmingham Railway, Light & Power Co., informs the Manufacturers' Record that the line between Birmingham and Bessemer, also the road in Besemer operated by steam-power, will be rebuilt for the use of electric motors and about a mile of additional track constructed. The plans include a power-house in Bessemer representing about 1000 horse-power. All contracts have been let.

Little Rock, Ark.—It is reported that local capitalists have become interested in a plan to build an electric railroad from the city to Fort Roots, in the suburbs.

Mobile, Ala.—George L. Leatherbury, Jr., of Mobile has asked for a franchise to construct an electric street railway. Mr. Leatherbury is said to represent capitalists of Troy, N. Y.

New Orleans, La.—The superintendent of the Orleans Railroad Co. writes the Manufacturers' Record that the company proposes building an extension of five and one-half miles of electric line. A franchise in its favor is pending in the city council.

Machinery, Proposals and Supplies Wanted.

Manufacturers and others in need of machinery of any kind are requested to consult our advertising columns, and if they cannot find just what they wish, if they will send us particulars as to the kind of machinery needed we will make their wants known free of cost, and in this way secure the attention of machinery manufacturers throughout the country. The MANUFACTURERS' RECORD has received during the week the following particulars as to machinery that is wanted.

Belting and Pulleys.—See "Woodworking Machinery."

Boiler and Engine.—See "Mining Equipment."

Boiler and Engine.—See "Woodworking Machinery."

Boiler and Engine.—See "Cotton Gin."

Boiler and Engine.—C. Gray & Sons, Woodford, Va., want 50 or 60-horse-power boiler, locomotive type, and 50-horse-power center-crank engine.

Boiler and Engines.—See "Woodworking Machinery."

Boilers.—E. A. & A. R. Wright, Fannin House, Marlin, Texas, will need two 60-horse-power boilers equipped for burning oil, two boiler feed pumps, each capable of supplying both boilers; one elevated steel tower 118 feet over all, tank to be 21 feet in diameter by 28 feet high, estimated capacity 100,000 gallons.

Brewery.—Missouri National Brewing Co., Joplin, Mo., is in the market for machinery for brewery of 60,000 barrels per year capacity, and for ice plant of seventy-five tons capacity (plate system). Address R. L. Dennison.

Brick Machinery.—See "Clay Machinery."

Broom Machinery and Supplies.—Hyattsville Manufacturing Co., F. J. Robinson, secretary, Hyattsville, Md., will be in the market for power, machinery and broom supplies, and a two or three-horse-power gasoline engine.

Building Materials.—W. L. Stevens, architect, Jennings, La., wants propositions for wiring, plumbing, press brick and terra-cotta materials.

Button Machinery.—Wanted—Machines for making pearl and other kinds of buttons. Address R. C. N., P. O. Box 219, Richmond, Va.

Clay Machinery.—Clark, Rose & Co., Box 67, Cannelton, Ind., want addresses of manufacturers of clay machinery of all kinds.

Cork-helmet Factory Machinery.—See "Hat-factory Machinery."

Cotton Gin.—Picard & Geismar, Dutchtown, La., are in the market for cotton gin, including engine and boiler.

Cotton Machinery. — See "Textile Machinery."

Electrical Equipment.—Proposals will be opened by drainage commission of New Orleans, La., Room 20, City Hall, January 22 for constructing work after plans and specifications on file. Separate bid required for each work indicated: One 1000-kilowatt generator, engine and boiler complete in central power station; deposit of each bidder $1000; bond of successful bidder one-quarter of amount of his bid. One pump at Metairie pumping station No. 6, with a delivery of 250 cubic feet per second, lift of ten feet; deposit $500; bond one-quarter amount of bid. All bids shall comply with and include all work indicated and described in plans and specifications. Usual rights reserved.

Electrical Machinery.—C. H. Wright Stave Co., Hollow Rock, Tenn., wants to buy second-hand dynamo of 50 to 100 lights capacity, also engine to drive same.

Electrical Motors.—See "Engines."

Elevators.—Miller-Clark Company, Fairmont, W. Va., wants bids for complete freight elevator, 4000 pounds capacity; grain elevator, screw conveyor 100 feet long and belt conveyor 100 feet long.

Engine.—See "Broom Machinery and Supplies."

Engine.—W. A. Carey, Durham, N. C., wants 10 to 20-horse-power engine.

Engine.—Snell & York of Pleasant View, Tenn., want to purchase traction engine.

Engine.—See "Electrical Machinery."

Engine.—O. R. Whitney, 39-41 Cortlandt street, New York, N. Y., wants a slide-valve engine for heavy duty, with heavy fly or band wheel, cylinder to be 26x36 inches, 28x36 inches, 28x32 inches or something near this size.

Engine, etc. — W. Lee Person, Rocky Mount, N. C., wants to purchase second-hand portable engine for woodyard; also saw and table complete.

Engines.—See "Paper Mill."

Engines.—Fairmont & Clarksburg Electric Railroad Co., Henry Schmulbach, Wheeling, W. Va., president, will need engines and motors for power-house.

Excelsior Machines.—C. Gray & Sons, Woodford, Va., want eight excelsior machines.

Flooring.—John Stephen Sewell, captain, engineers, 735 North Capitol street, Washington, D. C., will open bids December 27 for hardwood or tile or mosaic floors, complete in position, for new building for Government Printing Office. Information furnished on application.

Gasoline Engine.—See "Broom Machinery and Supplies."

Grading.—Abbeville Canal Co., Abbeville, La., wants bids for grading on five miles of irrigation canal, containing approximately 90,000 cubic yards earthwork. Usual rights reserved. For particulars address F. T. Foote, engineer.

Hardware Specialties.—Lawrence Thomas, 171 Main street, Watch Valley, Miss., wants addresses of makers of hardware specialties such as spring hinges, draw pulls, nickel-plated adjustable brackets, etc.

Hat-factory Machinery.—Khetter Mohun Dey & Co., 45 Radha Bazar street, Calcutta, India, wants machinery for manufacturing cork helmets, including machines for cutting and splitting cork into sheets varying in thickness from one-thirty-second to one-eighth inch, for cutting sheets to shape required, for beveling edges of sheets and joining them together, for hat molds or blocks, for drawings to be supplied, and for hat presses to hold movable blocks and dies to press the cork foundation to shape.

Hay Press.—C. Gray & Sons, Woodford, Va., want hay press, large bales.

Ice Plant.—See "Brewery."

Knitting Mill.—See "Textile Machinery."

Lumber Trucks.—See "Paper Mill."

Machinery.—H. B. Bloom, Box 392, Charlotte, N. C., is in the market for second-hand machinery.

Metal-working. — See "Tin-shop Equipment."

Mining Equipment.—Glen Mary Coal & Coke Co., Glen Mary, Tenn., wants prices on double-drum hoisting engine, capacity of drums 1500 feet of seven-eighths-inch wire rope.

Mining Equipment.—C. F. Durr, Buchanan, Ga., wants second-hand portable 10-horse-power engine and boiler, with pump, for placer work; 1500 feet three-inch hose, one giant two-inch and one-inch nozzle, 1000 feet spiral pipe, etc.; wants complete hydraulic plant for placer gold mining.

Mining Machinery.—See "Quarrying Equipment."

Oil Refinery.—Neches Oil Refining Co., Beaumont, Texas, may want machinery later on. Address D. O. Lively.

Paper Mill.—John Davis, 81 Haverhill street, Boston, Mass., wants 25-ton paper mill complete; also 250 lumber trucks and four valve engines, 60 to 250 horse-power.

Pearl-button Machinery.—See "Button Machinery."

Piping.—See "Generating Equipment, etc."

Plumbing.—See "Building Materials."

Pumps.—J. W. Miner, Ronda, N. C., wants quotations on second-hand steam pumps to feed 15-horse-power boiler.

Quarrying Equipment.—Beaumont Marble & Supply Co., C. E. Shannon, secretary, Beaumont, Texas, wants machinery for marble quarry; to be delivered at Marble Station, Ind. Ter.

Railway Equipment.—Wanted—Four trains of cars, each with three coaches. Address J. M. Carter, manager, 294 Exposition avenue, Dallas, Texas.

Roofing.—See "Woodworking Machinery."

Saw-mill.—J. H. Hard, Bessemer, Ala., wants to buy second-hand pony circular saw-mill to cut 2000 to 5000 feet per day.

Saw-mill Machinery.—See "Engine, etc."

Steam-generating Equipment, etc.—H. B. F. Macfarland, John W. Ross and John Biddle, commissioners District of Columbia, Washington, will open bids December 14 for making detailed design for, furnishing and erecting a steam-generating equipment, steam piping, etc., at Trumbull street pumping station. Specifications, blank forms of proposals and all necessary information may be obtained at above office.

Surveying Instruments. — W. A. Deans' Sons, Goldsboro, N. C., want to correspond with manufacturers of surveying instruments.

Tank.—See "Boilers."

Tank, etc.—Saluda Land & Improvement Co., Alvin Etheridge, treasurer, Saluda, S. C., wants prices on tank for storage of cotton oil, 10x14 feet, delivered at Johnston, S. C.; also prices on 400-gallon tank wagon.

Textile Machinery.—Khetter Mohun Dey & Co., 45 Radha Bazar street, Calcutta, India, want hand machines (readily worked by hand by women) for knitting and hosiery, braiding, galloon and ribbon, lace, and domestic looms, plain and Jacquard.

Tin-shop Equipment.—F. H. Lummus Sons Co., Columbus, Ga., is in need of a set of tools for tin shop.

Water-works.—Nardin, Okla. Ter., will want machinery for system of water-works. Address J. B. Russell, mayor.

Water-works, etc.—T. J. Powell, acting secretary, Providence, La., will open bids December 18 for sinking artesian well and constructing combined water-works and electric-light plant. Copies of specifications and forms of proposals on application to T. J. Powell. Certified check for $350 must accompany each bid. Usual rights reserved.

Water-works Supplies. — Llano (Texas) Water, Light & Power Co. wants to buy a quantity of water-works materials, including 850 feet of eight-inch cast-iron pipe, 2000 feet of six-inch, 3500 feet of four-inch, 1000 feet of wrought-iron pipe, threaded; No. 1 or 2 Roots rotary pump, shafting, coupling, pillow blocks, bevel mortise wheels, etc., all second-hand. Send for specifications.

Well-drilling.—Spring Creek Oil Co., L. B. Pennock, president, Algood, Tenn., wants to contract with parties for drilling oil wells.

Wiring.—See "Building Materials."

Wood-sawing Machinery.—W. A. Carey, Durham, N. C., wants second-hand or new machinery for sawing and splitting wood.

Woodworking Machinery.—Burt & Hicks, Biscoe, N. C., want catalogues and prices on machinery for making well buckets.

Woodworking Machinery.—A. J. Krebs Company, 2212 Avenue A, Birmingham, Ala., is in the market for a general line of woodworking machinery, including boiler and engine.

Woodworking Machinery.—Lord & Watson, Mineral Hotel, Chase City, Va., want one long saw carriage, 125-horse-power boiler and a two-inch auger for boring the heart out of columns.

Woodworking Machinery.—Hamilton, Bacon & Hamilton, Bristol, Tenn.-Va., are in the market for boxing machine, tenant auger, tire shrinker, boring machine and small band saw; second-hand preferred.

Woodworking Machinery.—Schwing Lumber & Shingle Co., E. B. Schwing, secretary, Plaquemine, La., will need 70-horse-power engine, 100 to 125-horse-power boiler, three shingle machines, friction live roller cut-off saw, kneebolter, scroll saws, packing frames, belting, pulleys and boxes for same, galvanized-iron roofing, pipes for dryhouse (one inch), car wheels for dryhouse cars, T rails, drag saw for sawing logs in bayou, two engines 6x20 for small steamboat, etc.

TRADE NOTES

Timber for Sale.—W. W. King of Charlottesville, Va., will give information relative to a quantity of oak and poplar lumber, also poles and shingles, offered for sale. Further details will be found in another column.

Roofing Supplies.—The National Roofing Supply Co., referred to in another column, makes a specialty of material of this kind. It also acts as manufacturers' agent. It is located at the corner of Sixteenth and South streets, Wheeling, W. Va.

Industrial Opportunity.—By addressing W. C. Noland, Chamber of Commerce Building, Richmond, inquirers can obtain information relative to factory sites, with cheap power, located near Richmond. Further details will be found in another column.

In a New Position.—Mr. B. Franklin Hart, Jr., M.E., has associated himself with Edwin Burhorn, M.E., the well-known contractor of No. 62 Wall street, New York. Mr. Hart was formerly connected with the Wheeler Condenser & Engineering Co. of New York.

Extending in the South.—The International Time-Recording Co. of New York has found it to its advantage to establish a Southern department, which has been located in Atlanta in charge of Mr. K. R. Cobb. The department will contain a complete line of time-recording devices and time stamps, including the Bundy and the Rochester clock.

To Manufacturers.—An excellent opportunity to engage in manufacturing in North Carolina is offered by the sale of an interest in a woodworking factory, also a flour mill and a saw-mill in Western North Carolina. Particulars relative to the opportunity will be found in the advertising columns. Box 50, care of Manufacturers' Record, may be addressed.

Furniture-Manufacturing. — The manufacture of furniture offers an excellent opportunity for Southern investment in a profitable branch of industry. A company is now being organized to manufacture furniture at Danville, Va., and offers the position of general manager to an experienced man. Further particulars can be obtained by addressing Box 371 at Danville.

Right Kind of Goods.—The Electric Supply Co. of Savannah, Ga., and Charleston, S. C., believes it is putting the right kind of goods on the market, and, judging from

the demand, its claim is well warranted. It makes a specialty of incandescent lamps, electric-light and bell supplies, as well as materials for telephone and telegraph service, and is prepared to contract for installation.

News from a Newsy Quarter.—The Burt Manufacturing Co. of Akron, Ohio, manufacturer of the well-known Cross Oil Filters, has three important announcements to make this month—the receipt of further government orders for its product, a new attachment for automatically separating water from waste oil, and the fact that its filters received a high award at the Pan-American Exposition.

A Valuable Invention.—Many patrons of the Robinson-Rea Manufacturing Co. of Pittsburg are familiar with the merits of the Blake ore and stone crusher formerly manufactured by this company. They will be interested in knowing that Messrs. William Yagle & Co., Limited, of Pittsburg will in future supply the demand for this device. The Blake crusher has a wide reputation and has been on the market for years. It is noted for its durability.

Belting at Low Prices.—In spite of the advance in price of leather belting which has been made by a number of manufacturers, Messrs. Coggins & Owens of Baltimore announce that they are prepared to sell at from 20 to 25 per cent. lower than the price-list recently adopted by these manufacturers. This concern is noted for the high quality of its belting, which it guarantees. A price-list will be sent to all interested on application to the firm at No. 12 West German street.

Extending to the West Indies.—The merits of the machinery manufactured by the P. H. & F. M. Roots Co. of New York have evidently become known in the West Indies, as the company has recently secured a very large contract for an irrigation pumping plant which will be located on the plantation of the South Porto Rico Sugar Co., on the island of this name. The contract was made through the New York office, of which Mr. John A. Caldwell is general manager, located at 109 Liberty street.

Ball Engines Popular.—The orders which are continually being received by the Ball Engine Co. of Erie, Pa., indicate the widespread popularity of the mechanism which it offers for electric lighting and other purposes. Recent orders include one for the Columbia Plate Glass Co. of Blairsville, Pa., representing 380 horse-power; 175 horse-power for the Will's Creek Coal Co. of Byesville, Ohio; 500 horse-power for the Jacksonville (Ill.) Gaslight & Coke Co., also an engine for the Indiana elevator at Chicago.

More Orders.—The Munising Railway of Munising, Mich., will be equipped with cars secured from F. M. Hicks of the Hicks Locomotive & Car Works of Chicago. The rolling stock includes two combination cars, each having three compartments. They will be finished in oak and supplied with all of the latest appointments in passenger-car construction. Mr. Hicks has also secured an order from the Blackwell, Enid & Southwestern Railroad Co. for two 50-ton freight locomotives and one passenger engine.

Valuable for Roundhouses.—An interesting roundhouse is that of the Lake Shore road at Collingwood, Ohio, described in the October number of the American Engineer. This house, having a turntable seventy-two feet in diameter, is one of the largest ever built. It is heated throughout by the Sturtevant system, the hot air being discharged to the locomotive pits and serving as it rises to rapidly melt the snow and ice from the running-gear. This method is coming into general use in all new buildings of this character.

Valuable Compounds.—Builders and others will be interested to learn that arrangements have been made to change the Southern branch of J. A. & W. Bird Company of Boston and New York to No. 214 South Peters street, New Orleans, where parties desiring the famous roofing and cold-water paint manufactured by Messrs. Bird & Co. can obtain either of these compounds. The Southern branch is in charge of Mr. Chas. F. Abbott, who will be pleased to give estimates and correspond with all who are interested.

An Interesting Exhibit.—The display of machinery made at the Pan-American Exposition by the Becker-Brainard Milling Machine Co. of Hyde Park, Mass., was one of the most interesting, and the many who examined it will not be surprised to learn that the company secured a gold and a bronze medal. The gold medal was awarded for the vertical milling machine and the bronze medal for the horizontal machine. The vertical machine is adapted for a wide range of work, and has the merit of being very economical. The specimen shown was operated by a five-horse-power direct-connected motor.

Long-Distance Transmission.—The Pacific coast has been the field for some very remarkable exploits in electrical work. A transmission system is nearly completed in California between what is known as the Eighth street substation in San Francisco and the Yuba river. This line will be not less than 222 miles in length, and is conveyed by the Bay Counties Power Co. and the Standard Electric Co. These companies utilized the S. K. C. apparatus very largely, manufactured by the Stanley Electric Manufacturing Co. of Pittsfield, Mass. This company received a gold medal at Buffalo for its high-tension alternating-current apparatus.

Abreast of the Times.—One of the reasons why the Bowsher feed mills are so popular is the policy of the company to broaden their range of usefulness. New sizes have been added and improvements made from time to time when it was considered necessary. Farmers appreciate the apparatus, as it is adapted to so many uses. The mills will grind corn with or without the shuck, as well as all kinds of small grain for feed. The sizes range from two to twenty-five horse-power, so that mills can be purchased suitable for large or small farms. Full particulars of the apparatus can be had by writing the N. P. Bowsher Company at South Bend, Ind.

Extended to Canada.—Not satisfied with covering the United States, the Sterling Blower & Pipe Manufacturing Co. of Hartford, Conn., has invaded Canada, and recently secured an order for blowers, dust collectors and galvanized sheet-steel hoods and piping from the Asbestos & Asbestic Co., which is to establish a very large plant at Danville, Quebec. The Sterling Company will furnish a complete equipment of the specialties referred to. It has recently installed apparatus in the plant of the H. W. Johns Manufacturing Co. of Brooklyn, the well-known manufacturer of asbestos in the States. The company's Southern office at Norfolk is securing a very satisfactory business.

To the Limit.—An idea of the demand for electrical apparatus is conveyed in a recent letter from the Triumph Electric Co. of Cincinnati, Ohio, in which the statement is made that its plant is working twenty-four hours a day with a double force of hands in order to fill orders for its apparatus. Its wide reputation for electric-light and power specialties has created the remarkable demand which it is endeavoring to fill. Recent orders include complete equipment for the factory of the Krell-French Piano Co. of Springfield, Ohio; a number of generators and motors for the Globe-Wernicke Company of Norwood, Ohio, and two large generators for the Commercial-Tribune of Cincinnati, Ohio.

Have a Wide Area.—Reports of the sales being made by the James Leffel & Co., the well-known manufacturer of steam engines, boilers and turbine wheels of Springfield, Ohio, give an idea of the wide area of territory which is covered by this company. The orders include an engine for Porto Rico, which will drive English-made machinery; a 50-horse-power engine for a flour-mill plant in Wisconsin, an engine and boiler for a hat factory in Mexico, a plantation engine for Cuba, engine and boiler complete for use in Colombia, S. A., and steam plants for Spanish customers. In order to secure the necessary facilities for filling orders quickly, the company is adding a variety of machine tools, also installing a new power plant which includes electrical apparatus, a new blower system of heating and down-draft furnaces.

The Crocker-Wheeler Company of Ampere, N. J., is being pushed to its utmost to keep up with the large number of orders it is daily receiving and has on hand. It has added to the large number of its factory hands, and has for some months been working a regular night shift. Among shipments made during the last month are two 520-kilowatt generators for the American Smelting & Refining Co., Perth Amboy, N. J.; three 400-kilowatt and one 100-kilowatt for the Alsen Cement Plant, West Camp, N. Y.; one 400-kilowatt generator for the Christensen Engineering Co., Milwaukee, Wis.; one 300-kilowatt generator for the Balbach Smelting & Refining Co., Newark, N. J.; three 200-kilowatt generators for the Stetson & Co.'s new power plant, Philadelphia; one 375-kilowatt generator for the Anglo-American Provision Co., Chicago; one 400-kilowatt and one 75-kilowatt for the Lake Shore & Michigan Southern Railroad; one 200-kilowatt generator for the Vandergrift Construction Co. for railroad work; one 200-kilowatt generator for the Crucible Steel Co. of Blair, Pa.; one 150-kilowatt generator for Latrobe Steel Co.; one 200-kilowatt for the Otis Elevator Co., and one 100-kilowatt generator for the United States Tube Co. It has also completed the entire shipment of the 45-kilowatt direct-connected generator and fifty or sixty motors for the Government Printing Office in Manila, Philippine Islands. Among the orders recently received are noted the following: Two 300-kilowatt generators for the Singer Manufacturing Co., South Bend, Ind.; two 200-kilowatt belted generators for Sayre & Fisher, Sayreville, N. J.; four 140-kilowatt generators for the Fort Hill Chemical Co., Rumford Falls, Mo. A shipment of thirteen motor-dynamos for the Western Union Company's plant, Milwaukee, and the electrical equipment of Skinner & Sethman Publishing Co.'s plant, Denver, Col., consisting of a 40-kilowatt generator and twenty-eight motors, will also be made this month.

TRADE LITERATURE.

Handy to Have Around.—The latest advertising idea of the Joseph Dixon Crucible Co. of Jersey City, N. J., is a combination of a calendar and blotter, which contains an illustration of a schoolboy writing a Christmas letter with a Dixon pencil.

In Green, Red and Gold.—The American Tool Works Co. of Cincinnati issues an attractive card containing the calendar for December, illustrating its Challenge engine lathes, which are in use so extensively throughout the country. The card is ornamented in green, red and gold.

In a Good Locality.—The Star Dynamo Works is in a fortunate location at Jefferson City, Mo., as it is in the center of an extensive field of electrical promotion. Its recent catalogue referring to dynamos and motors will doubtless attract much interest in the Southwest, as it gives an idea of the improved apparatus manufactured at this plant.

Nuttall Gearing.—The R. D. Nuttall Co. of Pittsburg has issued a leaflet giving some valuable information relative to gearing. It is hardly necessary to say that this company has a merited reputation for its work, which is thoroughly appreciated by manufacturers. The leaflet contains directions relative to orders, and is handy to have around.

Steam Specialties.—A pamphlet recently issued by the Dean Bros. Steam Pump Works of Indianapolis, Ind., treats of the steam specialties made by this concern in a very interesting manner. The word economic can be well applied to the pumps and condensers which are turned out at the Dean Works. Catalogue No. 21 contains a complete description, and will be sent on application.

A Notable History.—The history of the Draper family, which founded the extensive company at Hopedale, Mass., is really of international interest, as the Drapers and their associates, the Dutchers, invented devices which have formed a revolution in textile manufacturing. The career of Warren W. Dutcher is referred to in a recent issue of "Cotton Chats," prepared by the secretary of the Draper Company.

An Enviable Record.—During the present year the York Manufacturing Co. of York, Pa., has sold ninety-six ice-making machines of an average refrigerating capacity of eighty tons each. It is truly a record to be proud of. In a pamphlet recently issued a list is given of some of the patrons of the company. They represent about every community of importance in the United States, as well as the Sandwich Islands and the Island of Guam, the West Indies and Great Britain.

Protection That Protects.—A great many varieties of fire-extinguishing apparatus have been placed on the market, some of which are of a very indifferent character. The Standard extinguisher, however, has been thoroughly tested and the fact demonstrated that it is a practical protection against fire. Some of the points described in a recent pamphlet issued by the manufacturer are its simplicity of construction, quickness of operation and the perfect regulation of the acid feed. The pamphlet will be sent anyone interested on application to the E. B. Badger & Sons Company, Boston, Mass.

Cooling Things.—The claim made for the Triumph ice and refrigerating machinery that it cools the world has considerable ground, as the Triumph Ice Machine Co., manufacturing this apparatus, has secured an enviable export as well as domestic trade. The Southern patrons of the company are numerous and appreciative, judging by the many testimonials which are included in the latest catalogue issued by the Triumph Company. It will be sent to any address on application to the principal offices at Cincinnati, Ohio.

Practical Value.—Time has tested the products of the National Fireproof Paint Co., with very successful results. Its compounds are adapted to a wide variety of uses, and have proved to be fireproof in every respect. A booklet recently issued by the company contains samples of the various tints in which the fireproof paint is furnished, as well as valuable information concerning its manufacture and directions for using. The company will be pleased to send the book on application to it at 40 Dearborn street, Chicago.

A Notable Success.—Electrical engineers and other experts are familiar with the fact that the operation of the chloride accumulator on the Brooklyn Heights Railroad has been attended with very successful results. The application of the storage batteries is described in a recent pamphlet. Mr. F. E. Morse, superintendent of power of the company, is the writer, and gives some very interesting details relative to the topic. The Electric Storage Battery Co., Allegheny avenue and Nineteenth street, Philadelphia, will be pleased to send the article, which is contained in Bulletin No. 67.

Attractive and Artistic.—The "few views" included in the pamphlet recently issued by the D'Olier Engineering Co. of 125-127 South Eleventh street, Philadelphia, are unusually attractive, as they give an idea of the high grade of this company's work and the prominent buildings in which it is installed. It has carried out contracts for the United States Sugar Refinery at Camden, N. J.; University of Pennsylvania, the United States government, the Saving Fund Building of Philadelphia, the Cathedral of St. John at Savannah, Ga., and in other notable structures. The company has many testimonials from widely-known patrons. It has recently opened an office in the Equitable Building, Baltimore, and announces that its engineers are at the service of the public for electrical and general mechanical installation, heating, ventilating and equipment of special apparatus.

Very Artistic.—This can truly be said of every portion of Catalogue No. 42, recently issued by the Flint & Walling Manufacturing Co. of Kendallville, Ind. As might be expected, it describes and illustrates the noted Star windmills, Hoosier and Fast Mail pumps, tanks and other apparatus for which the company has such a widespread reputation. Special care has been taken in the illustrative features, which include excellently-engraved designs in half-tone and other work, many of them reproduced from high-class photographs. The information contained in the catalogue makes it literally an encyclopedia upon the subject of windmills, tanks and their parts. Incidentally, a very interesting history of the development of windmills is included. An idea of the extent of the work can be obtained when it is stated that about 250 pages are devoted to the description and illustrations.

Artistic and Interesting.—This is really a rare combination of merit in the average pamphlet issued for business purposes. But it can truly be said that the booklet descriptive of the exhibit of the Westinghouse Companies of Pittsburg at the Pan-American Exposition embodies both of these features. From front to back cover every page contains reading matter and illustrations well worthy of study. While especially interesting to technical readers, the booklet has even a fascination for the general reader, as the apparatus is depicted and described in such a manner that the novice can gain an intelligent idea of the vast extent of this company's work. It contains an outline of the group of companies bearing the familiar title of Westinghouse, also reference to the foreign corporations manufacturing and distributing Westinghouse apparatus. The illustrations of engines, generators and motor cars are of the highest order. Perhaps the most striking feature of the booklet is a diagram of a group of industries depending upon the Westinghouse generators at the Niagara Falls power-house. This group includes a variety of plants, and forms one of the most interesting manufacturing centers in the world.

FINANCIAL NEWS.

The Manufacturers' Record invites information about Southern financial matters, items of news about new institutions, dividends declared, securities to be issued, openings for new banks, and general discussions of financial subjects bearing upon Southern matters.

New Corporations.

E. W. Roberts is interested in the First National Bank, recently organized at Cornish, I. T., with $25,000 capital stock.

K. C. Cox and others are interested in the Blair State Bank, being organized at Blair, Okla., with $5000 capital stock.

The Holland Investment Co. has been organized at St. Louis, Mo., with $50,000 capital stock, by C. L. Watson and others.

The First National Bank has been organized at Anson, Texas, with $30,000 capital stock, by C. H. Steele and others.

The First National Bank has been organized at Hewitt, I. T., with $25,000 capital stock, by C. L. Anderson and others.

The Waxahachie Loan & Trust Co. has decided to open a savings bank as a branch of its business at Waxahachie, Texas.

The Farmers and Merchants' Bank has been organized at Humansville, Mo., with $20,000 capital stock, by O. J. McLane and others.

The Loganville Banking Co. has been chartered at Loganville, Ga., with $25,000 capital stock. Among those interested is John B. Richards.

S. M. Milan and M. C. Cluster are interested in the Amorita State Bank, recently organized at Amorita, Okla., with $5000 capital stock.

The Home Protective Insurance Co. has been organized at Portsmouth, Va., by John B. Davis and others. Mr. Davis has been elected president.

The Mangum Loan Co. has been organized at Mangum, Okla., with $10,000 capital stock. B. F. Simpson is president, and W. B. Graves, cashier.

W. S. Wilkerson, Hickory Grove, S. C., and D. E. Boney of Yorkville are interested in the Farmers' Mutual Insurance Co., organized at Yorkville, S. C.

The State Trust Co., being organized at St. Louis, is to be capitalized at $1,500,000. Among those interested are G. W. Spencer and Edward A. Wernse.

Arrangements have been made to organize the First National Bank at Alvord, Texas, with $25,000 capital stock. Among those interested is T. B. Yarborough.

The Newport News Savings Bank, recently organized at Newport News, Va., has secured a charter to begin business. It is capitalized at $50,000. L. F. Barnes is president.

The Citizens' Bank, recently organized at Osceola, Ark., is capitalized at $25,000. F. B. Hale has been elected president; W. J. Driver, vice-president, and Walter H. Fulen, secretary.

It is announced that Hon. R. T. Barton will be president of the national bank recently organized at Winchester, Va., and H. D. Fuller, cashier. The bank is to be capitalized at $100,000.

The First National Bank, recently chartered at Luray, Va., has been authorized to begin business by the government. E. D. Newman has been elected president, and J. S. Price, cashier.

The Lumberton Building and Loan Association has been organized at Lumberton, N. C., with R. M. Norment, president; R. T. Allen, vice-president, and D. W. Millsipes, secretary and treasurer.

The bank recently organized at Natchitoches, La., has elected L. Caspari, president; H. M. Hiams and J. W. Freeman, vice-presidents, and S. H. Hill, cashier. It will be known as the People's Bank, and is capitalized at $50,000.

The First National Bank, recently organized at Bay City, Texas, has elected J. M. Moore, president; D. P. Moore, vice-president, and W. T. Goode, cashier. The bank is to be capitalized at $50,000.

New Securities.

The town of Rockwood, Tenn., has voted in favor of issuing $6000 in bonds for improvements. Address the mayor.

The First National Bank of Meridian, Miss., has purchased the issue of $30,000 in 4 per cent. bonds of Lauderdale county at par.

Messrs. N. W. Harris & Co. of Chicago have purchased the issue of $100,000 in 5 per cent. bonds of Hamilton county, Tennessee, paying 108.25.

It is possible that Jefferson county, Texas, will issue $150,000 in bonds for road improvements. The county board may be addressed at Beaumont.

The town of Dyersburg, Tenn., will vote January 22 on the question of issuing $50,000 in 4 per cent. bonds for improvements. Address the town clerk.

Bids will be received until January 7 for the issue of $40,000 in 5 per cent. school bonds of the city of Huntsville, Ala. The school board may be addressed.

The State authorities have approved the issue of about $36,000 in refunding bonds of Stonewall county, Texas. The county board may be addressed at Rayner, Texas.

Bids will be received until December 9 for the issue of $54,000 in 5 per cent. bonds offered for sale by the town of Marlin, Texas. Wm. Shelton, mayor, may be addressed.

Proposals will be received until December 16 for the issue of $5000 in 6 per cent. levee bonds of the Buras (La.) district. John Dymond, 339 Carondelet street, New Orleans, may be addressed.

Messrs. Hugh MacRae & Co., bankers of Wilmington, N. C., advertise in another column an issue of $50,000 in 6 per cent. bonds issued by the Lumberton Cotton Mills Co. of Lumberton, N. C.

Bids will be received until December 17 for the issue of $40,000 in 5 per cent. bonds of the city of Florence, S. C. William Hoffmeyer, chairman of the board of commissioners, may be addressed.

It is announced that the issue of $250,000 in bonds of Davidson county, Tenn., will probably be placed on the market at 4 per cent., as they remain unsold. The county court may be addressed at Nashville.

Financial Notes.

Property valuations at Savannah for 1901 are $38,360,957, an increase over 1900 of $1,252,879.

Bank clearings at Atlanta in November amounted to $12,176,425.11, nearly $1,000,000 more than the clearings in November of last year.

The necessary authority has been received from the comptroller of currency to allow the Bank of Commerce of Norfolk, Va., to do business as a national bank. The capital stock has been increased to $500,000.

A dispatch from Wheeling, W. Va., states that the Metropolitan Insurance Co. of New York has absorbed the business of the Provident Life Insurance Co. of that city, and will enlarge its West Virginia division as a consequence.

Mr. Eugene Levering, president of the National Bank of Commerce of Baltimore, has recently purchased a quantity of stock of the Continental National Bank of Baltimore, and has been elected one of the directors. It is understood that the purchase forms a step in the combination of the two banks.

SOUTHERN COTTON-MILL STOCKS.

Quotations Furnished by Hugh MacRae & Co., Wilmington, N. C., for Week Ending December 3.

	Bid.	Asked.
Abbeville Cotton Mills (S. C.)	...	91
Aiken Mfg. Co. (S. C.)	90	93
American Spinning Co. (S. C.)	...	105
Anderson Cotton Mills (S. C.)	120	130
Arkwright Mills (S. C.)	117	...
Augusta Factory (Ga.)	70	73
Avondale Mills (Ala.)	82½	...
Belton Mills (S. C.)	...	101
Cabarrus Cot. Mills (N. C.), new	130	130
Clifton Mfg. Co. (S. C.)	...	185
Clinton Cotton Mills (S. C.)	121	...
Courtenay Mfg. Co. (S. C.)	...	115
Dallas Mfg. Co. (S. C.)	90	100
Darlington Mfg. Co. (S. C.)	89	91
Eagle & Phenix Mills (Ga.)	100	...
Enoree Mfg. Co. (S. C.)	...	112½
Enterprise Mfg. Co. (Ga.)	...	100
Gaffney Mfg. Co. (S. C.)	113	116
Granby Cotton Mills (S. C.)	...	100½
Granby Cotton Mills (S. C.) 1st Pfd.	101½	103½
Graniteville Mfg. Co. (S. C.)	160	165
Greenwood Cotton Mills (S. C.)	101	102½
Grendel Mills (S. C.)	100½	102½
Henderson Cotton Mills (N. C.)	120	125
Henrietta Mills (N. C.)	...	200
John P. King Mfg. Co. (Ga.)	95	...
Langley Mfg. Co. (S. C.)	104	...
Laurens Cotton Mills (S. C.)	140	...
Lockhart Mills (S. C.)	105	108
Louise Mills (N. C.)	...	100
Lynchburg Cotton Mills (Va.)	125	130
Lynchburg Cotton Mills (Va.) Pfd.	145	150
Manchester Cotton Mills (S. C.)	...	114
Mayo Mills (N. C.)	150	...
McColl Mfg. Co. (S. C.)	...	103½
Newberry Cotton Mills (S. C.)	116	...
Odell Mfg. Co. (N. C.)	...	100½
Orr Cotton Mills (S. C.)	...	102½
Pacolet Mfg. Co. (S. C.)	190	200
Pelzer Mfg. Co. (S. C.)	172	180
Piedmont Mfg. Co. (S. C.)	...	180
Poe, F. W., Mfg. Co. (S. C.)	120	...
Raleigh Cotton Mills (N. C.)	116	...
Richland Cotton Mills (S. C.)	...	105
Richland Cotton Mills (S. C.) Pfd.	...	103½
Roanoke Mills (N. C.)	90	100
Sibley Mfg. Co. (Ga.)	75	78
Southern Cotton Mills (N. C.)	100	...
Spartan Mills (S. C.)	132	...
Trion Mfg. Co (Ga.)	125	135
Tucapau Mills (S. C.)	128	...
Union Cotton Mills (S. C.)	...	138
Union Cotton Mills (S. C.) Pfd.	100½	...
Victor Mfg. Co. (S. C.)	110	113½
Warren Mfg. Co. (S. C.)	90	93
Warren Mfg. Co. (S. C.) Pfd.	105½	...
Washington Mills (Va.) Pfd.	100½	102½
Whitney Mfg. Co. (S. C.)	...	120
Wilmington Cot. Mills (N. C.) Pfd.	100	105
Wiscassett Mills (N. C.)	115	...

TRADE LITERATURE.

Education While at Work.—The advantages of such a system can be recognized at once by the skilled or unskilled workman. To the employe of the textile mill such an inducement is of extreme interest. Consequently the work of the American Correspondence School of Textiles has attracted widespread attention. Mr. C. P. Brooks, the director, through the system he has arranged, offers to mill operatives a needed opportunity to receive a thorough textile education without leaving their regular work. It may be interesting to know that the American School has students in Europe, Asia and South America. Further particulars of its system will be found in another column, while a catalogue, with complete information, can be secured by addressing Mr. Brooks at New Bedford, Mass.

High-Grade Specialties.—The Browning type of electrical generators and motors is referred to in Bulletin No. 23, issued by the Milwaukee Electric Co. They are intended for direct-current lighting and power, and represent a combination of improvements which has given them a high reputation with experts. The bulletin, which gives a clear description of their merits, contains a list of the sizes and prices, and will be sent on application. Bulletin No. 50 treats of multipolar generators and motors intended for the same purpose. This apparatus is likewise made in a variety of sizes, and is applicable to different installations. The literature will be sent to any address on application to the Milwaukee Company, or to the D'Olier Engineering Co., 125-127 South Eleventh street, Philadelphia.

Compound Hammer Pulverizer.—A hammer pulverizer, adapted for the pulverization of many kinds of material, including coal, ore, rock, clay, limestone, etc., is described and illustrated in a handsome little pamphlet issued by the Simpson Manufacturing Co., whose offices are in the Chamber of Commerce, Chicago. This concern manufactures several mining specialties, but the Simpson compound hammer pulverizer is its chief specialty. The pulverizer gives the material its initial crushing, when it is passed between the two sets of swinging hammers. This operation thoroughly breaks up the material before it passes through on the screen plates, secured to the lower part of the machine and shaped concentric with the path of the swinging hammers. The main feature of the machine is the flexibility of the hammer and its ability to handle enormous quantities.

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Personally-Conducted Tours via Pennsylvania Railroad, Season of 1901-1902.

The Pennsylvania Railroad Co. announces the following personally-conducted tours for the season of 1901-1902:

Mexico and California.—A 45-day tour will leave New York, Philadelphia, Harrisburg and Pittsburg February 11. The party will travel over the entire route by the "Mexico and California Special," the finest train that crosses the continent.

Florida.—Three tours to Jacksonville will leave New York and Philadelphia February 4 and 18 and March 4. The first two of these admits of a sojourn of two weeks in the "Flowery State." Tickets for the third tour will be good to return by regular trains until May 31, 1902.

Tickets for the above tours will be sold from principal points on the Pennsylvania Railroad. For detailed itineraries, giving rates and full information, address B. Courlaender, Jr., passenger agent Baltimore district, Baltimore, or Geo. W. Boyd, assistant general passenger agent, Philadelphia. †

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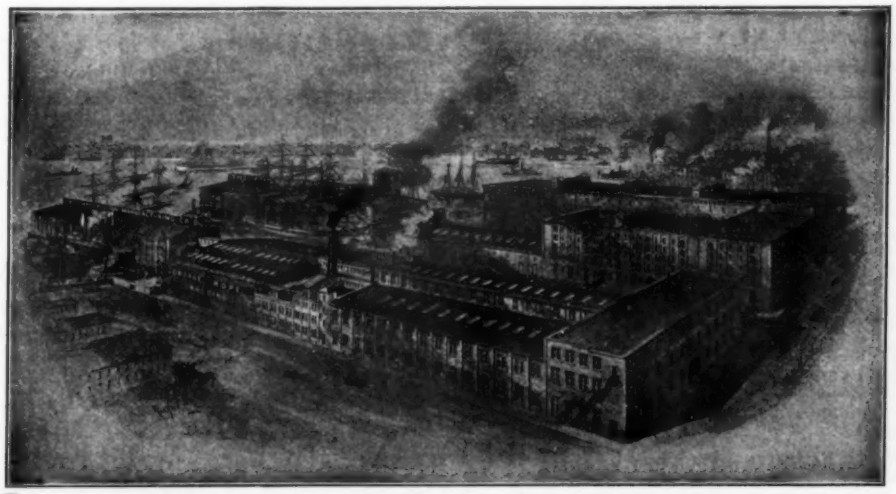

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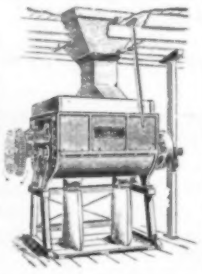

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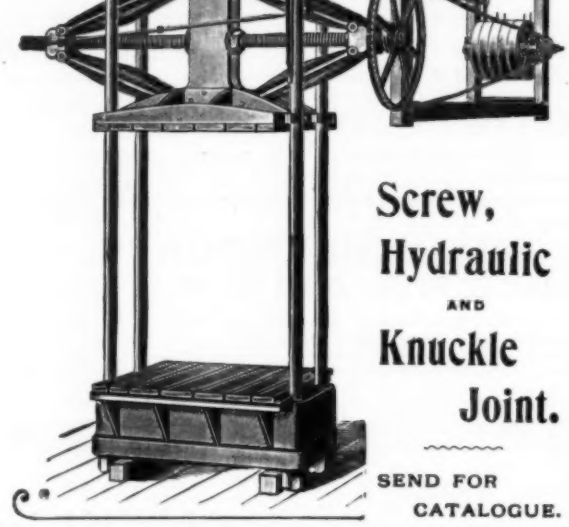

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Situated at junction of two main lines of railway, 25 miles from Richmond, Va.
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Steamboat connection with Norfolk, Va.
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Operates Nine Miles of Canals and Electric Power Transmission Plants.

Price for Water Power:
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JAS. W. WILSON, President.

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Manufacturing Site of Twenty Acres and $20,000 worth of Building Lots.

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The well-established and fully-equipped Flour and Corn Mills, known as Cockade City Mills, located at Petersburg, Va., on the Appomattox River Canal, is hereby offered for rent.

The Flour Mill is a commodious four (4) story brick building, is equipped with the most approved Roller machinery of the E. P. Ellis manufacture, and has a capacity of 150 barrels per day.

The Corn Mill is also a large four-story brick building, and is furnished with both Roller Process and Stones, with a capacity of 1000 bushels meal per day.

The products of both of these mills enjoy a fine trade reputation, and meet with the readiest sale. Their brands are deservedly popular. The water-power supplying these mills is never too high nor too low in its habit, is truly both unlimited and unfailing, and the property, placed in the hands of a man of experience, offers the surest promise of success and substantial profit.

The present occupant releases the plant through no fault or want of confidence in its performance or capacity, nor with the reception accorded by the trade to its products, but is simply forced to relinquish it by reason of the tax upon his time of his other numerous and large business interests, which admit of no further additions thereto.

A good tenant can secure the property for a term of years upon satisfactory figures. This is a business opening seldom met with in a district so populous. Correspondence is invited.

COCKADE CITY MILLS CO.
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Will sell out fifth interest in a well-established sash, door and blind factory with an up-to-date 80-bbl. roller mill in connection; also 425 acres finest timbered land in Western N. C., with a saw and shingle mill on tract; just commenced cutting the timber. Business has been paying 20 per cent. cash dividend ever since started. Or would sell half or controlling interest. Buyer to take charge and run business. Have two million feet lumber in yard with an abundant supply near factory. Best of reasons for selling. Address
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Would Pay

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Knitting Mills, Machine Shops,
Small Foundries, Stove Works,
Basket Factories, Bucket
Factories, Pipe Works,
Rolling Mills, Sash, Door,
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At a number of points in the South along the line of the

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There are good openings for Woodworking Plants, such as FURNITURE FACTORIES, PLANING MILLS, SPOKE AND HANDLE FACTORIES, or other plants using pine or hardwoods. Local people will invest from $6,000 to $8,000 with an experienced man who will himself invest a like amount or more and do a legitimate business. For information write to

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SOUTHERN RAILWAY.

. . . THE . . .

Meldrum Camphor & Chemical Co.

Camphor and Celluloid Crystal Refiners and Manufacturing Chemists.

Incorporated under the Laws of the State of Delaware. Capital $500,000.

Divided into 50,000 6 per cent. Preference Shares of $5.00 each and 50,000 Ordinary Shares of $5.00 each. Payable $2.00 on Application, $1.00 on Allotment, and $2.00 three months after Allotment.

Issue of 27,000 6 per cent. Preference and 27,000 Ordinary Shares of $5.00 each, at Par.

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GARDNER W. KIMBALL, of Delaware Trust Co., Wilmington, Del.
C. G. MURRAY, Blackshear, Ga., Resident Director for the Globe Mfg. Co., Ltd.

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M. TEMPLE TAYLOR, Secretary and Treasurer, Pro tem., SAVANNAH, GA.
Registered Office: 902 Market Street, WILMINGTON, DEL.

ABRIDGED PROSPECTUS.

This Company has been formed to adopt and carry out an agreement between Archd. Meldrum, Manufacturing Chemist, Blackshear, Ga., U. S. A., (lately with the Blackshear Manufacturing Company, Blackshear, Ga.), and the Globe Manufacturing Company, Limited, Camphor Refiners and Manufacturing Chemists, 11 Mansion House Chambers, London, England, and whose works are situated at West Norwood, England, Hoboken, Antwerp, France, the said agreement being dated 2nd day of September, 1901.

The agreement comprises the sole rights of United States and Canada to manufacture Camphor, Celluloid Crystals, and by-products under the Globe Manufacturing Company's various processes.

The processes being secret, it is not desirable in the interests of the Company to give any details, but the secret documents have been duly sealed and deposited with the Company's solicitors as per agreement with Mr. Meldrum.

A working capital of $50,000 is ample for the manufacturing of 50 tons of camphor, celluloid crystals and by-products per month, and for which a market has already been acquired. The gross profit on this production is estimated to give, after bearing all charges, a sum not less than $120,000 for distribution on the Preference and Ordinary shares, leaving a sum of $70,000 for the purpose of reserve fund, or for further extention of the business.

The Company also acquires 250 acres of land, a dwelling house, and an abundance of fine timber. The purchase price for the land is $6,200; for the rights to manufacture, under the various processes, $282,000, leaving a balance of $211,800. The total cost for building works and installing plant and machinery capable of producing 3 tons per day is $61,800, leaving the working capital at $50,000, and $100,000 for future issue.

The only agreements existing are: 1st. Between the Company and Archd. Meldrum, wherein he sells to the Company the American rights for manufacturing at $282,000 and 250 acres of land, including dwelling house and timber at $6,200. total $288,200, payable as to $158,200 in cash and $130,000 in Ordinary shares.

2nd. Agreement between the Company and Archibald Meldrum, wherein the latter agrees to act as Managing Director for 10 years at a salary of $5,000 per annum.

3rd. Agreement between Archd. Meldrum and the Industrial Trust Company, 60-62 Liberty street, New York, as to the guaranteeing of this issue.

Mr. Meldrum will be a large stockholder, having agreed to accept a large portion of the purchase price in ordinary stock, thus showing the business will be conducted upon safe lines. Mr. Meldrum is a thorough, practical manufacturing chemist, understanding the practical manufacture of Camphor, its by-product, Borax, Boracic Acid, Sulphuric Acid, Arsenic, Starch, and many other chemicals too numerous to mention. Any improvements that Mr. Meldrum may bring out as regards reducing cost of manufacture, or new processes, become the property of the Company. This Company will consider the manufacture of various chemicals and *more especially* Arsenic, and for which there is a growing demand. A convention was held at Brunswick, Ga., on April 9, 1901, to consider the cultivation of the plant known as "Cassava." Starch can be manufactured at a low cost from this plant, and should it be planted to any great extent in this State, starch manufacturing will also be considered. It is estimated the Company will be in a position to fill orders early next year. Already arrangements have been and are being made for the sale of the total output of the Company's products.

The advantages of manufacturing at Blackshear are many. Firstly, the air is pure; secondly, the water is good and free; thirdly, labor is cheap; fourthly, transportation is easy, as the railroad would run into the works; fifthly, it is handy for New York and other markets, also for shipping. The imports of Camphor for year 1899 amounted to 1,807,541 lbs., valued at $322,100, and in 1900 1,789,580 lbs., valued at $485,071. It will be seen there is a good outlook for this Company.

No promotion money is being paid, and Mr. Meldrum pays all expenses up to allotment. Prospectuses and application forms may be had of the Bankers, Solicitors, Offices of the Company or Secretary.

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FOR IMMEDIATE DELIVERY.

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1 650-lt. T. H. Alternator, 35 K. W., 1050 volts, belted to
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1 Small Plating Dynamo.

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SHEAR:—One Alligator shear capable of cutting 3" square Bar and under.
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CORRESPONDENCE SOLICITED.

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If you are in the market for a second-hand Boiler and Engine, Steam Pump, Feed-Water Heater, Steam Trap, Dynamos, second-hand Belting, Pulleys, Hangers and Shafting, second-hand Steam Pipe, any size or quantity; Wrought Iron Tanks, Smoke Stacks of any kind, kindly communicate with us, as we are in a position to fit you out, and will guarantee perfect satisfaction or refund the money and bear all expenses

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28x60. 26x48. 26x60. 20x48.
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Corliss and Double Valve Engines for Trolley Roads and Electric Lighting Stations.

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1 29x72 Wheelock.
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1 20"x48" Geo. H. Corliss.
1 18x48 Greene.
1 10"x24" Harris Corliss.
3 12 and 20x12 Westinghouse Compound.
1 16 in. and 27 in.x16 in. Westinghouse compound.
2 13"x12" Erie Ball.
2 12"x12" Ball automatic.
2 13 in.x14 in. Watertown automatic.
1 14 in.x13 in. Armington & Sims automatic.
1 15⅝ in.x16 in. New York safety automatic.
3 15⅝ in.x15 in. Armington & Sims automatic.
1 16 in.x16 in. Ball automatic.
1 18⅝x18 in. Ideal automatic.
2 16x16 Ames automatic.
2 11x12 Ames automatic.

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22"x42" Wright Corliss.
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2nd-Hand 80, 160 and 250 h. p. Berrymans, 200 h.p. Goubert, 150 and 600 h.p. Wainwrights, 500 h.p. National, 600 h.p. Stillwell-Bierce Open Heater. All guaranteed. F. L. PATTERSON, Havemeyer Bld'g, N. Y.

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9"x17' Triple Geared.
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20"x8' Prentiss.
38"x10', 24"x12'.
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13"x6' Speed Lathe.
Planers.
28"x9½', 24"x6'.
Drill Presses.
60" Cunningham, 44" Betts Radial, 44", 36" and 18".

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76"x20' Farrell, compound rest, triple-geared, worm drive.
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18' swing pit lathe, very heavy.
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48x48x14 Putnam, latest patterns, 2 hds., new.
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28" Smith & Mills, geared.
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2" Cleveland automatic, Al.
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3, 4 and 5 and 6' Bickford radials, new.
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No. 6 Brainard heavy Lincoln pattern miller.
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50" Bickford vert. boring mill.
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1-25" Blaisdell Upright Drill.
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1 26"x24"x6' Planer.
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Lot of Boilers, Engines, Lathes, Planers, Drill-Presses, 1 Large Fire Pump, Steam Pipe, all sizes, and about 500 Tanks of different sizes.

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26x40x48 in. Allis cross compound Corliss.
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40x72 in. R. H. Geo. H. Corliss.
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And all other sizes, both automatic and throttling governor engines, down to 4 H. P.

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1 14" Planer and Matcher, key stone, of the Goodell & Waters make.
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Large assortment of Engines, Boilers, Pumps, Heaters; etc.

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2	150	Buckeye "C"	14¼x16	240	72x15
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Five 72"x16' High Pressure Boilers, now carrying Hartford Insurance for 125 lbs. steam pressure. Can be delivered about January 10th next. Full line of all kinds of machinery in stock. Write for prices. Machinery that has been used, but in good condition, also bought.

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Steel Pressure Blowers. Vertical Boilers, 6 to 60 H. P. Hor. Tub. Boilers, 27 to 100 H. P. 3 Hor. Tub. Boilers, 125 H. P., fine condition. 15, 25, 75 H. P. Hor. Slide Valve Engines. 3½ and 10 H. P. Vertical Engines. 2 and 7 H. P. Gas Engines. 3 H. P. Shipman Coal Oil Engine. Conant Corn Cooker. Corn Silker. Corn Cutter. One Fisher Kettle. Open Kettles. Lot Trucks. 6 Hughes Steam Pumps, 4½"x6"x6", 4" suction, 3" dis. One each Worthington and Dean Duplex Pumps and Receivers. S. A. Woods A Flooring Machine. Gray & Woods Planer, 24"x16"x18". Tenon Machine. Mortising Machines. Self feed Rip Saws. Sliding Carriage Cut-off Saw. Swing Saw. Variety Moulders. 18" and 20" Pony Planers. Huntingdon Hor. Boring Machine.
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163. Armington & Simms cross compound, 13½x 20½x15.
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688. 66x18 tubular.
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One 500 H. P. Heater.
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Large lot of leather and rubber belting.

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2 16x12x10 Worthington Duplex Pumps.
2 31 Exhaust Fans.
1 60 H. P. 10x12 N. Y. Safety Auto. Engine.
1 80 H. P. 12x20 Atlas Left Hand Automatic Engine.
18 ½x10¼x10 Worthington Duplex Pumps.
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Also a large number of smaller Engines, Boilers, Pumps, Heaters, etc.

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RAILS

Light or heavy section.
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1 1000-ft., 1¾-in. Sherman Cableway, with Lambert engine, complete.
Stiff Leg, Guy and Breast Derricks, hand and steam power.
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Largest Stock of Engines, Boilers, Dynamos and General Machinery. Rebuilt and Guaranteed. Immediate Delivery.

1 28"x48" Green Automatic. 1 16¼"—32"x36" Cross Compound Fitchburg Automatic. 1 12"—20"x16" McEwen Automatic. 1 22"x32" Watertown Automatic. 2 20"x42" Green Automatics. 2 17"x30" Williams Automatics. 1 15½"x16" New York Safety Automatic. 1 15"x12" Harris Corliss. 1 14"—37"x14" Westinghouse Compound. 2 15½"x15" Armington & Sims Automatic. 2 14½"x18" Beck Automatic. 1 14"x16" McEwen Automatic. 1 13"x14" Vertical Fitchburg Automatic. 1 10"—18"x12" Ball Tandem Compound. 2 12"x18" Russell Automatics. 2 13"x12" Ball Automatics. 1 10"x16" Buckeye Automatic. 1 9"x9" New York Safety Automatic. 2 80 H. P. Westinghouse Compounds. 5 75 H. P. Westinghouse Standard Automatics. 2 65 H. P. Westinghouse Compounds. Also a great many others, all types.

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BOILERS—2 300 H. P. Climax Vertical Water Tube Boilers. 2 280 H. P. B. & W. Water Tube Boilers, 200 lbs. steam pressure. 1 300 H. P. A. & R. Water Tube Boiler, 165 lbs. steam pressure. 2 100 H. P. National Water Tube Boilers. 5 66"x18' Horizontal Tubular Boilers, 125 lbs. steam pressure. 3 66"x18' Horizontal Tubular Boilers, with Hawley down draft. 3 66"x16' Horizontal Tubular Boilers, 125 lbs. steam pressure. 2 66"x16' Horizontal Tubular Boilers, 100 lbs. steam pressure. 4 54"x16' Horizontal Tubular Boilers, 100 lbs. steam pressure. 2 48"x14' Horizontal Tubular Boilers, 100 lbs. steam pressure.

Several full Railway and Electric Lighting Equipments. Large stock of Machine Tools. Also a large assortment of New Machinery for immediate delivery—Lathes, Planers, Shapers, Drill Presses, Milling Machines, Dynamos, Motors, Gas and Gasoline Engines, Steam and Centrifugal Pumps, Contractors' and General Supplies. Write for special catalogue and prices.

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A bargain to quick buyer: the lot for $650. 2 boilers, 9 engines, 3 governors, outfit for grist mill. Boilers are—1 stationary, 54x12, 69 tubes, 3 in.; portable 3 ft. box, 24 tubes, 3 in. Engines are—2 9x12, Struthers and Ball, 1 8x10 Newberg, 2 7x12 Farrar and Woodby; 2 8x12 Buffalo; 2 6x12 Buffalo, and Wood Taber. 3 Gardner governors, 2 in. Grist Mill Outfit as follows: 1 set of 4-ft. French Burrs; 1 set Case Corrugated Rolls, 6x12; 1 20-in. Poney Middling Mill, under runner, made by Nordyke & Marmon Co., Indianapolis, Ind.; 1 large Triumph Power Corn Sheller; 1 Eureka Smutter and Cleaner; 1 Hercules Cleaner, Scoures and Separator; 1 Geo. T. Smith Middling Purifier, No. 1, double; 1 Howe Scale, 4000 lbs., on truck; lot of Wood Work, Conveyors, Bolters, Elevators, etc., such as ordinarily used as setting up a Grist Mill. This is a good and cheap lot of machinery sold to close up estate at Oil City. Address

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One marine steel fire box boiler 10 feet long, 73 inches diameter.
Eight cylinder boilers, 36 inches diameter, 36 feet long.
One Lane & Bodley engine, 14x20.
One smoke stack, 4 ft. in diameter, 61 ft. long.
One single cylinder slide valve 15 H. P. hoisting engine.
One Wm. E. Hill & Co.'s drag saw.
One surfacer.

THE CYPRESS LUMBER CO., Apalachicola, Fla.

For Sale—Dynamos, Engines, Boilers, &c.

DYNAMOS—Brand new, modern, best make, fully guaranteed for one year, 110 volt, compound wound.

27-light	Dynamos,	all complete,	$ 67.50.
53-light	"	"	112.50.
93-light	"	"	146.25.
130 light	"	"	183.75.
200-light	"	"	206.25.
270-light	"	"	228.75.

MOTORS—Brand new, best make, 110 volts, ¼ horse, $28.50; ½ horse, $36; 1 horse, $56.25; 2 horse, $67.50; 3 horse, $90; 5 horse, $135; 7 horse, $146.25; 10 horse, $183.75; 20 horse, $228.75. Have also 220 and 500 volt motors.

We have also some first-class second-hand Machinery, as follows: Alternating Current Dynamos—2 1300-light Westinghouse at $385 each, also others.

ENGINES.

100 H. P. Westinghouse Compound, $475.
50 H. P. Dick & Church Automatic, 300.
125 H. P. Westinghouse Compound, 600.

Also some 150, 250 and 350 H. P. Engines.

BOILERS—2 60"x16' Hor. Tubular, at $260 each. Also larger and some smaller Boilers.

Berryman Heaters—1 700 H. P. $195; also smaller ones. Electric Power Generators—100 H. P., 500 volts, $675; also others. Pulleys, Shafting, Belting, &c. Write us.

American Electric Supply & Mfg. Co.
27 Thames Street, NEW YORK CITY.

FOR SALE!

1 25-h. p. locomotive boiler, 1 15-h. p. return tubular boiler and ten radiators, also 6 miles 40-lb. steel relaying rails. Southern delivery, first of January, and 40 40,000 capacity flat cars.
LOCOMOTIVES, standard and narrow gauge.
1 75-h. p. ret. tub. boiler; 70 ton 40 lb. steel T rail, immediate delivery. Also a Forney type saddle tank standard gauge Porter locomotive, cylinder 12x18, diameter of driving 42", thickness 2"; also an 8-wheel American type, Rodgers make, 14x22" cylinder. 1 Saw Mill, capacity about 15 or 20,000 ft. a day; also 3000 Standard M. C. B. good second hand couplers, one 42" gauge passenger coach and two 75-H. P. return tubular boilers. These goods are all right. Write

JOS. E. BOWEN, Citizens Bank Bldg., Norfolk, Va.

FOR SALE.

One Practically New 15-Tons

Kelley Steam Road Roller

R. S. ARMSTRONG & BRO., Atlanta, Ga.

WANTED.

To Buy Second-hand Machinery of Small Sugar Mill.

Must be in good condition. Address, with description and price,

A. M. ANDRUS, Richmond, Texas.

FOR SALE—BARGAINS.

CLOSE TO RAILWAY, AT GOLD HILL, N. C.

Three 20 Head 750 lb. Stamp Mills, Self Feeders, Plates, 3 Rock Crushers, etc. 100 H. P. Corliss Engine. 40 H. P. Erie City Engine. Two 60 H. P. Erie City Boilers, Air Compressor, Receiver, 2 Drills, etc. 5 Head 650 lb. Stamp Mill, Self Feeder, Triumph Concentrator. Thies Chlorination Plant, 2 barrels, lead lined tanks, etc. Buildings, Bricks, Tools, Shafting, Pumps, Assay outfit, etc. F. BLOOMER, Agent, Gold Hill, N. C. F. BETTS, Los Angeles, Cal.

FOR SALE.

Two Davis & Furber Machine Co.'s Nappers; good as new; used only short time. One Miller Press & Machine Co.'s Press; used only 6 months.

DELGADO MILLS,
WILMINGTON, N. C.

FOR SALE.

36 inch Leviathan Belt.

160 feet long, made by Main Belting Co., Philadelphia. Brand new; never been used nor out of their storehouse. Will be sold cheap for cash. Address

McCULLOUGH IRON CO., Wilmington, Del.

SPECIAL.—40-H. P. OTTO DOUBLE CYLINDER

Gasoline Engine

with all fittings and connections complete and in best of condition for sale at **$500**
Guaranteed as stated. Now running a wood-working plant.

PARADOX MACHINERY CO., 181 E. Division St., CHICAGO.

For Sale - ENGINES.

2 Van Dusen Gasolene, 25 h. p. each. 1 10 h. p. Otto Gas Engine. All in good condition and cheap. The J. H. DAY CO.,
1144 Harrison Ave., Cincinnati, O.

RAILS—LOCOMOTIVES.

1500 tons 30 and 35-lb. Iron T Relaying Rails and Splices. Locomotives of various types, sizes, etc., at our shops here, overhauled and ready for service, for wood or iron track.

Southern Iron & Equipment Co.
ATLANTA, GA.

FOR SALE
FREIGHT, PASSENGER AND LOGGING
LOCOMOTIVES
AND
ALL SIZES **CARS** QUICK DELIVERIES
F. M. HICKS, 225 DEARBORN ST. CHICAGO, ILL.

Second-Hand

Engines & Steam Pumps

For Immediate Delivery.

ENGINES.

One Nagle Center Crank, 14x14, new.
One Erie City Side Crank, out-board bearing, 11x15, thoroughly overhauled and in perfect condition.

PUMPS.

One Worthington Duplex, 2x3x2.
One Blake Single Cylinder, 5¼x4x6.
One Cope & Maxwell Vertical, Single Acting, 5x5x3¼.

National Electrical Supply Co.
WASHINGTON, D. C.

Locomotives and Cars

FOR

Construction, Logging, Freight and Passenger Service.

SOUTH SIDE ELEVATED R.R.
28-ton Short Wheel Base Engines.

BROOKLYN ELEVATED R.R.
30-ton Forney Type Engines.

NARROW GAUGE EQUIPMENT.

FITZ-HUGH & CO.
1647-48 Monadnock Block, Chicago. 141 Broadway, New York.

Passenger, Baggage and Mail
Combination
Freight } **CARS**

Write for prices.

FITZ-HUGH & CO.
1647-48 Monadnock Block Chicago. 141 Broadway, New York.

FOR SALE.

Passenger Type Locomotive—4 ft. 8½ in. gauge, cylinders 15 in x22 in., drivers 53 in. centers. Westinghouse Air Brakes—weight 25 tons, capacity of tank 2000 gallons. Prompt delivery.

Write for description and photograph.

BENJAMIN WATSON,
Coffee Exchange Bldg., 66 Beaver St.
NEW YORK CITY.

Steel Rails, Cars, Locomotives, Railroad Supplies.

EQUIPMENT FOR SALE.

CASH OR EASY PAYMENTS.

Locomotives, box, flat, gondola and logging cars, standard and narrow gauge; Climax geared locomotives, all gauges.

Write for description and prices.

Special Bargains.

South Side Alley L engines, $2500 each; 34-foot standard gauge flat cars, 42-ton standard gauge Mogul locomotives; standard gauge Russell logging cars, 24 inch wheels; B. & N. logging cars, 28 inch wheels; 60,000 capacity flat and Gondola cars; 8x14 Porter dinkey engine; 40,000 capacity 40 foot flat cars, standard gauge.

F. M. PEASE, Incorporated,
355 Dearborn St., Chicago, Ill.

FOR SALE.

5 Consolidation, 2 Passenger
LOCOMOTIVES

First-class condition, ready to run—no repairs. Painted, Varnished and Lettered—CHEAP.

DALLETT & CO.
201 Walnut Place, PHILADELPHIA, PA.

LOCOMOTIVES.

1 6-ton Byers geared, 36" gage.
1 12-ton Dunkirk geared, wood rails, 36" gage.
1 7-ton Dunkirk geared, wood rails, 36" gage.
1 16-ton 10x16, 4 drivers with tender, 36" gage.
1 9-ton Porter Saddle Tank 7x12 cylinders, standard gauge.

Get our prices on new Saddle Tank and Mogul Locomotives.

SCOTT, LOW & CO.
Empire Building, Pittsburg, Pa.

Locomotives, Cars, Rails, FOR SALE.

For every gauge, weight and service, Write for prices.

The Males Co. 15-16-17 Aetna Bldg. CINCINNATI, OHIO.

FOR SALE.

NEW STEEL RAILS

800 tons of 40 lb. with angle joints.
200 tons of 25 lb. with plain joints.
200 tons of 30 lb. with plain joints.

TIDEWATER DELIVERY.

Relaying Rails Bought and Sold.

THE STEEL RAIL SUPPLY CO.
100 Broadway, NEW YORK CITY.

FOR SALE.

50 tons 20-lb. and 100 tons 30-lb. first-class Steel Relaying T Rails, with splices, in central Pennsylvania, ready for immediate shipment.

Several cars New Rails, light sections, for immediate shipment.

HYDE BROS. & CO.
902 Lewis Building,
PITTSBURG, PA.

BUY OR SELL
RAILS,
Rolling Mill Machinery
AND
SCRAP.
A. F. BAUMGARTEN & BRO.
518 Park Building,
PITTSBURG, PA.

KILBY LOCOMOTIVE & MACHINE WORKS
Anniston, Ala.
BUILDERS OF

Logging Cars.

Prices and specifications furnished upon application.

FOR SALE.

300 Rogers Ballast Cars, built in 1896.
About 100 tons of 20-lb. steel relaying rails and splices. Southern delivery.
About two miles of 30-lb. steel relaying rails and splices. Southern delivery.

THE ISAAC JOSEPH IRON CO.
525-531 Hunt St., Cincinnati, Ohio.
522-524 Monadnock Block, Chicago, Ill.

Relaying Rails for Sale.
Immediate Delivery.

230 tons 6" Johnson Girder Rails, Section No. 52, in good condition, at Washington, D. C. Also other rails of different weights and descriptions at various points.

BENJAMIN IRON & STEEL CO.
BUFFALO, N. Y.

RE-LAYING RAILS!

All of the 50, 56 and 60-pound Steel Re-laying Rails from the Washburn, Bayfield & Iron River Railway, several thousand tons in all. IMMEDIATE DELIVERY.

F. M. PEASE,
355 Dearborn St., Chicago, Ill.

FOR SALE.

New 16 and 25-lb. Rails, immediate shipment. Dealers in Relaying Rails, Second-hand Machinery, Boilers, Pipe, etc. Spot cash paid for Abandoned Works, Railway or other Equipment.

J. B. JONES & CO.
310 to 320 Morgan St., ALLEGHENY, PA.

FOR SALE.

Second-Hand Locomotives.

We have Twelve Standard Gauge Locomotives on hand, for sale cheap. Write for descriptive lists and prices.

M. SABEL & SONS, Montgomery, Ala.

FOR SALE.

25 Flat Cars 3¾x7 Journals.
15 30,000 lb. capacity Flat Cars.
1 15-ton 36 in. gage Shay Locomotive.
1 17-ton 48½ in. gage Shay Locomotive.
3 16x20 Baldwin Locomotives, 36 in. gage, 10 wheelers
1 14x16 Baldwin Locomotive, 36 in. gage.
2 12x16 Baldwin Locomotives, 36 in. gage, Moguls.

Light Locomotives, Steam Shovels, Cars, are our specialties.

TORBERT & PECKHAM, 1603-5 Monadnock Block, **CHICAGO, ILL.**

SHOPS: CHICAGO. NEW YORK OFFICE, St. Paul Bldg.

FOR SALE.—Immediate Delivery.

One (1) **50-ton Shay (Geared) Locomotive,** standard gauge, three cylinders. **Used less than six months. Is in perfect order.**
Two (2) **50-ton Consolidated Locomotives,** standard gauge, in good order.
Two (2) **40-ton Passenger Locomotives,** standard gauge, in good order.
300 Box, Flat and Gondola Cars.

New York Equipment Company, 71 Broadway, New York.

RELAYING RAILS

FOR SALE.—Rails and Locomotives.

New and relaying rails 8 lb. to 60 lb. per yard, ready for immediate shipment. Also the following locomotives: Three 9x14 thirteen ton 6 wheel saddle tank Porter. Two 8x12 eleven ton saddle tank Porter. Two Shay geared. All the above are 3 feet gauge. In standard gauge we have, Two 16x24 thirty-three ton Baldwin Moguls. Two 10x14 sixteen ton Baldwin 4 wheel, with back truck. One 9x12 fourteen ton Baldwin saddle tank. One 7x12 twelve ton Richmond saddle tank. One 6x10 seven ton Porter saddle tank. One 12x14 Baldwin 4 wheel 17 ton. One 15x24 twenty eight ton 4 wheel switcher. One 16x24 thirty ton 4 wheel switcher. One 16 ton Heisler geared engine. Write for prices and terms.

BIRMINGHAM RAIL & LOCOMOTIVE CO., Birmingham, Ala.

FOR SALE.

A large number of 3 feet gauge Passenger, Box, Gondola and Flat Cars. Also Standard Gauge Cars, Relaying Rails of all weights.

JUSTICE COX, Jr. & CO., Limited,
552 Bullitt Building, Philadelphia, Pa.

HELP WANTED.

Advertisements under this head will be inserted at the rate of one cent a word for each insertion.

WANTED—A party that understands the yarn or knitting business and that can command some capital, to correspond with MANUFACTURER, Box 901, Richmond, Va.

WANTED.—A good combination man to do painting and trimming on buggies, etc. Must be honest, sober and reliable. We will contract for a year. Address H. B. & H., care Manufacturers' Record.

WANTED.—A first-class Foundry Foreman in a foundry making a specialty of Corliss engines, hoisting engines, air compressors and a general line of loam and green sand castings. Address A, care Manufacturers' Record.

MANAGER WANTED.

A strong company, being organized to engage in the manufacture of Furniture at Danville, Va., desires proposals from experienced men capable of filling the position of general manager to such business, with the view of entering into an agreement with some such one to fill said position. To be acceptable the applicant must be well recommended as to both character and ability, and will be expected to become a stockholder in the company as a guarantee of good faith and permanent connection.

Established firms who also desire to remove their plants to the South, or establish branches thereof in this section, are likewise invited to correspond with us. P. O. Box 371, Danville, Va.

SITUATIONS WANTED.

Advertisements under this head will be inserted at the rate of one cent a word for each insertion.

A YOUNG MAN, first class draughtsman, with experience in all departments of shop work, as assistant to superintendent or manager, or as superintendent of erection. Address A. M., care Manufacturers' Record.

FOR SALE.

RELAYING RAILS

New Frogs and Switches, all sizes.

FREIGHT CARS.

1 McGowan 4-inch 7"x6"x10" Duplex Pump.
1 Buffalo 3-inch 6"x5¾"x6" Duplex Pump.
1 Buffalo 2-inch 6"x4"x6" Duplex Pump.
1 Marsh 1-inch Boiler Feed Pump.

Also **SCRAP IRON.**

MAY & SPALDING, Atlanta, Ga.

BOSTON & MAINE RAILROAD.

Lowest Rates.

Fast Train Service

BETWEEN

Boston and Chicago

St. Louis, St. Paul, Minneapolis and all points West, Northwest, Southwest.

Pullman Parlor or Sleeping Cars on All Through Trains.

For tickets and information apply at any principal ticket office of the Company.

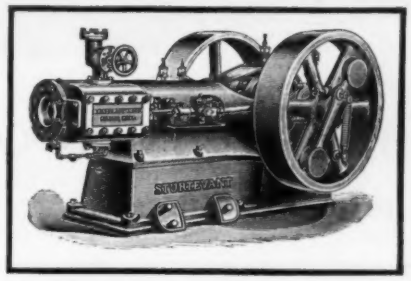
D. J. FLANDERS,
Gen'l Pass. & Tkt. Agt.,
BOSTON.

Subscribe to the Manufacturers' Record. Price $4 a year, or six months for $2.

STURTEVANT

High-Grade

ENGINES.



We have patterns for over 100 types and sizes of horizontal and vertical engines from 2 to 200 horse power. We are in a position to meet any possible power requirements between those limits. Designed originally for the driving of fans at high speed, they have been developed and the line greatly enlarged under these exacting requirements. More than 8000 Sturtevant engines are now in use.

B. F. STURTEVANT CO., Boston, Mass.

NEW YORK. PHILADELPHIA. CHICAGO. LONDON.

188

Have You Anything to Sell to Farmers?

If you have, the SOUTHERN FARM MAGAZINE will find new customers for you. The Magazine has in the last four years, as an authoritative periodical of information about agricultural capabilities and conditions in the South, built up an extensive circulation in the Northern, Western and Northwestern States among farmers who want to move South. As a result of its work there has been a constant and rapid increase in the volume of agricultural immigration to the South. With the recent enlargement of its work it becomes invaluable to all intelligent and progressive farmers of the South as a high class exponent of Southern agriculture. Its circulation is being vigorously pushed in all the fourteen Southern States. It is now, therefore, valuable as a means of reaching farmers not only throughout the North but also and especially in all parts of the South.

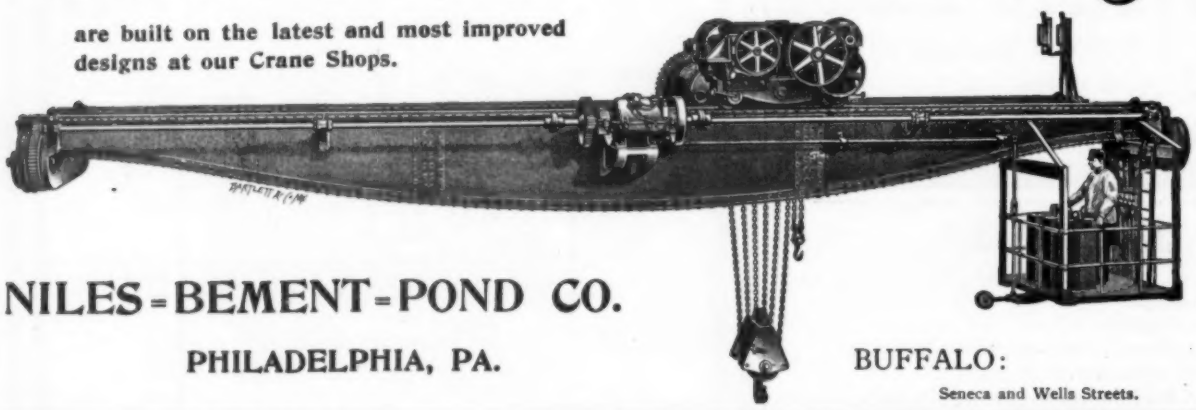
It will help you to sell Farm and Garden Implements and Machinery, Breeding Stock (Cattle, Horses, Sheep, Swine, Poultry), Stock Remedies, Farm and Stock Appliances and Specialties of every sort, Dairy Supplies, Seeds and Nursery Stock, Fertilizers, Household Articles and everything needed by the farmer or his family.

An advertisement in the Southern Farm Magazine will open up new channels of trade for you. TRY IT!

SOUTHERN FARM MAGAZINE,
Manufacturers' Record Building,
BALTIMORE, MD.

Niles Electric Traveling Cranes

are built on the latest and most improved designs at our Crane Shops.



Prompt Deliveries.

NEW YORK: 136-138 Liberty Street.
BOSTON: 65 Oliver Street.
CHICAGO: Western Union Building.
PITTSBURG: Carnegie Building.
BUFFALO: Seneca and Wells Streets.
ST. LOUIS: 615 N. 4th Street.

NILES-BEMENT-POND CO.
PHILADELPHIA, PA.

Tools for Sheet Metal.

TINSMITHS' and ROOFERS' TOOLS,
PRESSES and DIES,
SHEARING MACHINES,
ROLLS, PUNCHES,

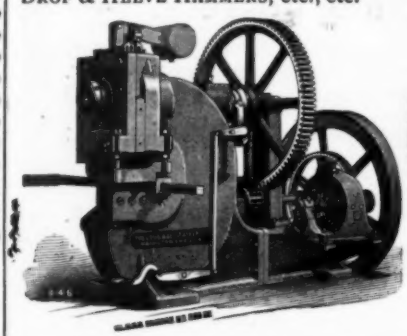
Made by the

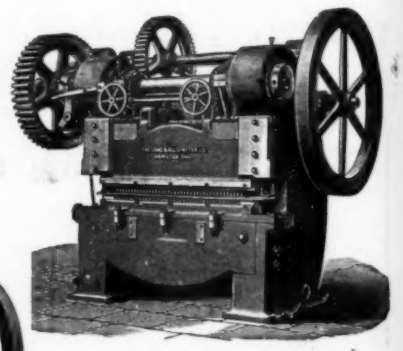
Niagara Machine & Tool Works,
BUFFALO, N. Y.

Write for Catalogue M.

POWER PUNCHES AND SHEARS.

BEAM COPING MACHINES,
RIVETING MACHINES,
TIRE WELDING MACHINES,
DROP & HELVE HAMMERS, etc., etc.





DESIGNED AND MANUFACTURED BY

THE LONG AND ALLSTATTER CO.
HAMILTON, OHIO, U. S. A.
Corresopndence Solicited.

COMBINED PUNCH and SHEARS

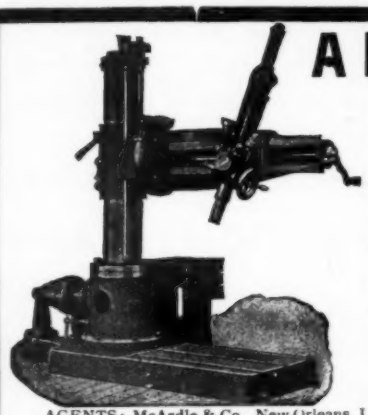
Different styles for Squaring, Slitting and Trimming All sizes. Automatic Self-Opening

Bending Rolls (revolutions)

Also Angle Iron Bending Rolls, Squaring Shears, etc., machines for working Sheet Metal.

BERTSCH & CO.
CAMBRIDGE CITY, IND

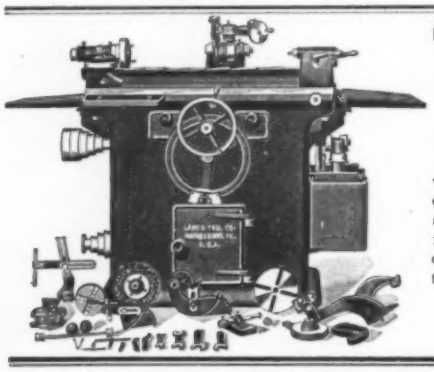
A Bickford Radial



of the full universal type as shown in this cut will drill holes at any angle from the center of a sphere. It will save resetting work a great many times and the difference between this and the old way will show in the quality and quantity of your work and in your profits. We haven't enough space here to tell you about all the good points in the tool but our catalog gives full detail. Send for it.

The Bickford Drill & Tool Co.
CINCINNATI, O., U. S. A.

AGENTS: McArdle & Co., New Orleans, La.; Morton, Reed & Co., Balto., Md.; Prentiss Tool & Supply Co., New York and Buffalo; Marshall & Huschart Machinery Co., Chicago, Cleveland and Cincinnati; The E. A. Kinsey Co., Cincinnati, O.; Brown & Zortman Machinery Co., Pittsburgh, Pa.; J. W. Wright & Co., St. Louis, Mo.; Henshaw, Bulkley & Co., San Francisco, Cal.; Cawston & Co., Portland, Ore.; W. E. Shipley, Philadelphia, Pa. A36



Machinists—Knowing How, Is Money Value.

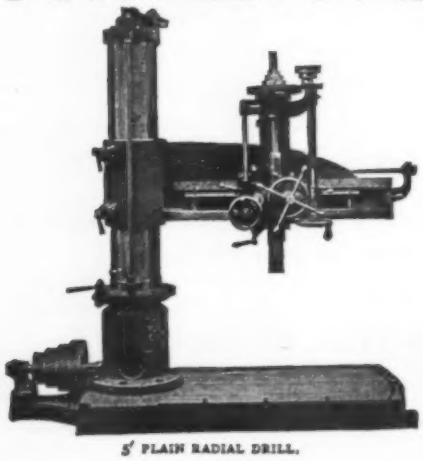
The Landis Universal Grinders

will turn out the highest grade of work economically. They are built in 8 sizes, having a swing of 8" to 20" and from 20" to 144" between centers, enabling a wide range of work to be done with them. Facts of interest in our Catalogue.

Landis Tool Co.
Waynesboro, Pa.

Subscribe to the Manufacturers' Record.

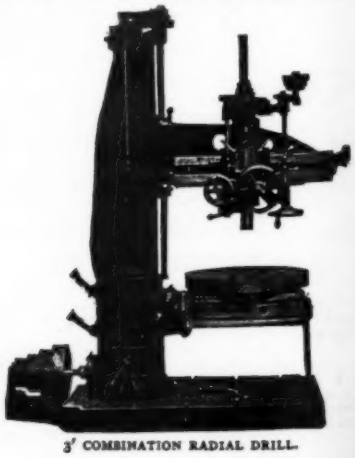
AMERICAN RADIAL DRILLS



5' PLAIN RADIAL DRILL.

are easily and rapidly operated, because *all* manipulating parts are within instant reach of the workman.

The American Tool Works Co.,
CINCINNATI, OHIO, U. S. A.



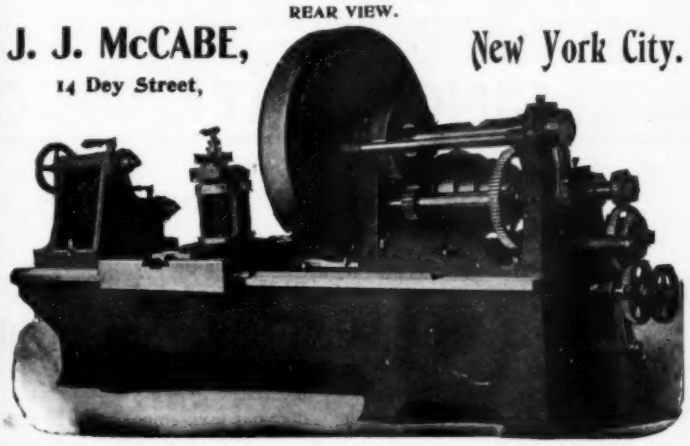
3' COMBINATION RADIAL DRILL.

I'm Getting Into Gas Engine Shops,

Elevator, Bridge, Street Railway, and all sorts of small manufacturing shops with my New Haven Pattern Double Spindle Lathe, because it is coming to be recognized as a tool of exceptional merit for the economical production of either large or small parts. The convenience and economy of changing a 26" swing back-geared lathe into a 48" swing, triple-geared or with internal geared face-plate (ratio 66 to 1), without the use of raising blocks or waste of time, appeals irresistibly to the manufacturer whose product necessitates heavy, accurate work, but does not require the steady use of a big lathe. Add to this double the screw cutting capacity of any ordinary lathe, positive geared feed, 2½" hollow spindle, in fact every good feature of the most modern high-grade lathe, all at a less cost than a single big lathe and you won't wonder at the growing popularity of this tool. Isn't there something in it for you?

REAR VIEW.

J. J. McCABE, 14 Dey Street, **New York City.**



FOREIGN AGENTS—Schuchardt & Schutte, Berlin, Vienna, Brussels, St. Petersburg, Stockholm and Cologne. Chas. Churchill & Co., London, Birmingham, Manchester and Glasgow.

A FINE GOLD MEDAL

of the Pan-American brand was awarded the

"New Yankee Drill Grinder"

because it grinds drills

Faster, Better, Truer, Cheaper, than any other drill grinder in the world.

The perfect way to grind drills; the economical way.

No gage jaws or other bothersome devices—one adjustment does it.

Made in 14 styles and sizes. Let us send Catalog.

WILMARTH & MORMAN CO.,
Grand Rapids, Mich.

A time and labor saver—easily and quickly operated—strong and durable. It is a

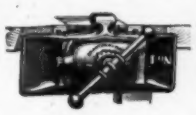
Patern-Makers' or Wood-Workman's Vise

and is adopted by many of the leading Patern Makers and Wood Working Shops in this country and abroad.

Write for Illustrated Catalog and Price List.

Adaptable to any conceivable position to suit the convenience and comfort of the workman.

EMMERT MFG. CO., Waynesboro, Pa., U.S.A.

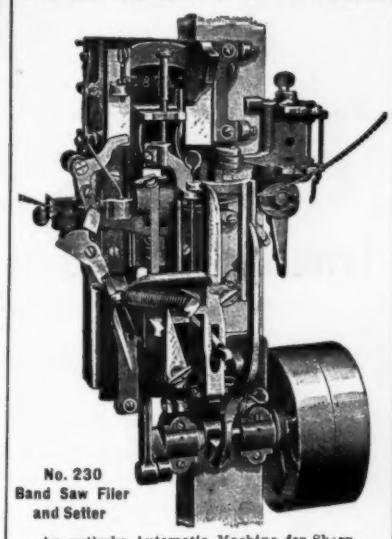


BUYERS of Machinery, Tools, Mining and Manufacturing Supplies can find anything they need by referring to the advertising pages of the MANUFACTURERS' RECORD.

SELLERS of anything that is required by Machinists, Foundrymen, Iron Manufacturers, Coal and Iron Ore Miners, Textile Manufacturers, Woodworkers and Artisans of every class can reach more customers through the MANUFACTURERS' RECORD than in any other way.

BALTIMORE, MD.

IMPROVED
WOOD WORKING MACHINERY



No. 230 Band Saw Filer and Setter

An entirely Automatic Machine for Sh-rpening Band Saw Blades 2 in. wide or under.

S. A. WOODS MACHINE CO.
Established in 1854.
SOUTH BOSTON, MASS.

Engine Lathes, 16 in. to 24 in. Swing.

Strictly High-Grade Lathes, with all modern improvements. Great solidity and convenience and ease of operation.

GREAVES, KLUSMAN & CO.
Cincinnati, O., U. S. A.

Our Catalog of
Screw Plates,
Taps, Dies and Reamers will interest you.
A. J. Polk & Son, Millersburg, Pa.

PATENT GROOVER OR DADO HEAD.

For cutting any width groove, from ⅛ inch in 2 in. or over. This groover consists of two outside saws, each of which is a groover to itself and as many inside cutters as required. The inside cutters are made 1-16, ⅛ & ¼ inch thick so that any width groove measurable in sixteenths may be cut. The outside cutters are made ⅛ inch thick. It will cut a perfect groove, either with or across the grain, and will not leave a rough edge as in the case with ordinary groovers.

Can be used on any Circular Saw Mandrel.

HUTHER BROS.
SAW MANUFACTURERS,
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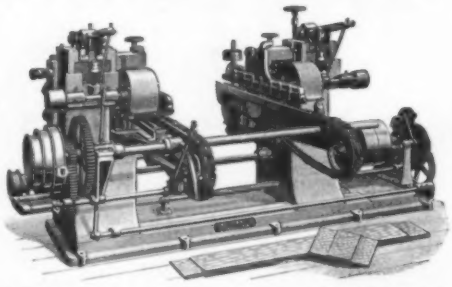

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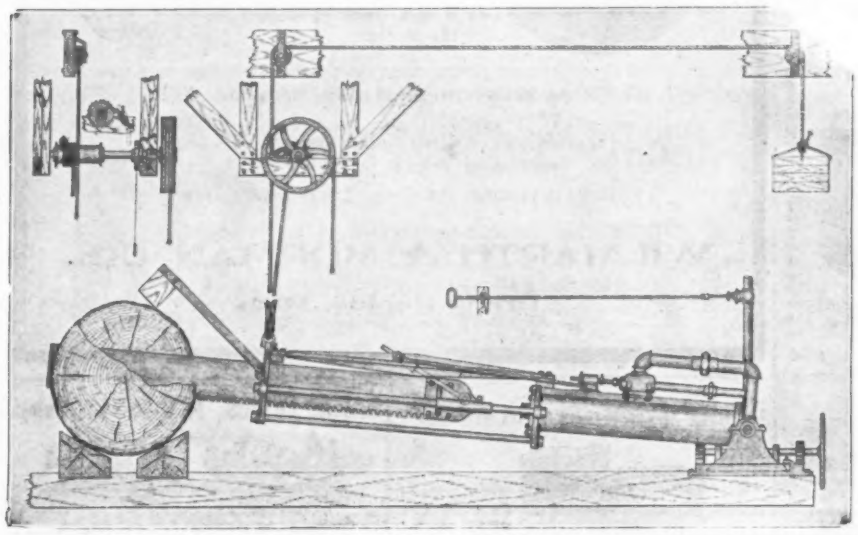

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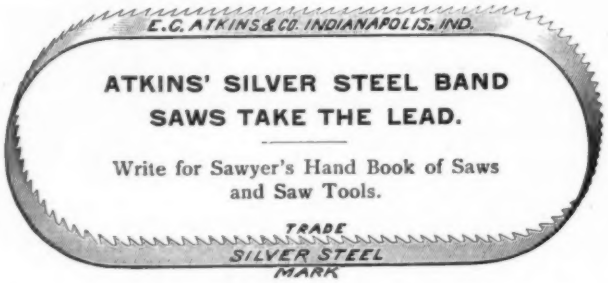

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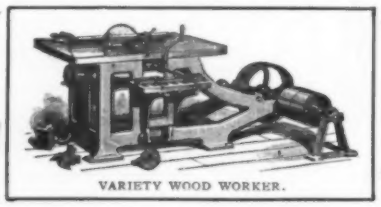

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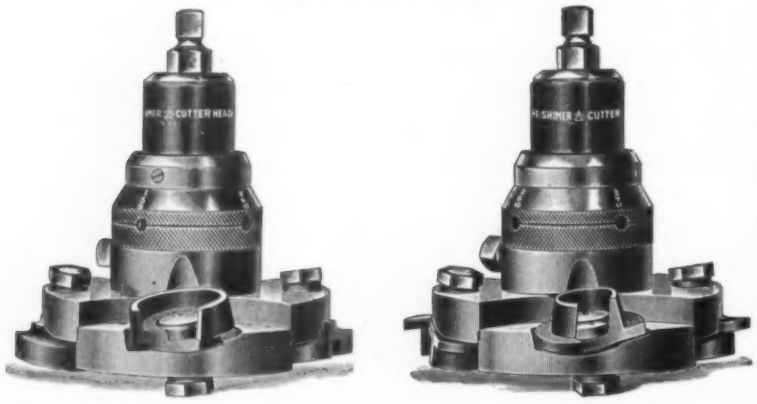

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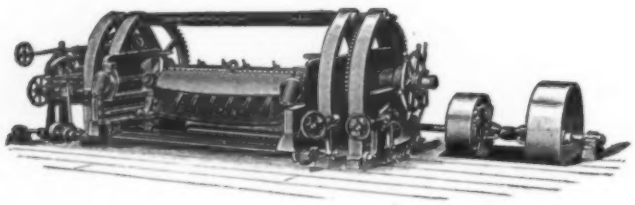

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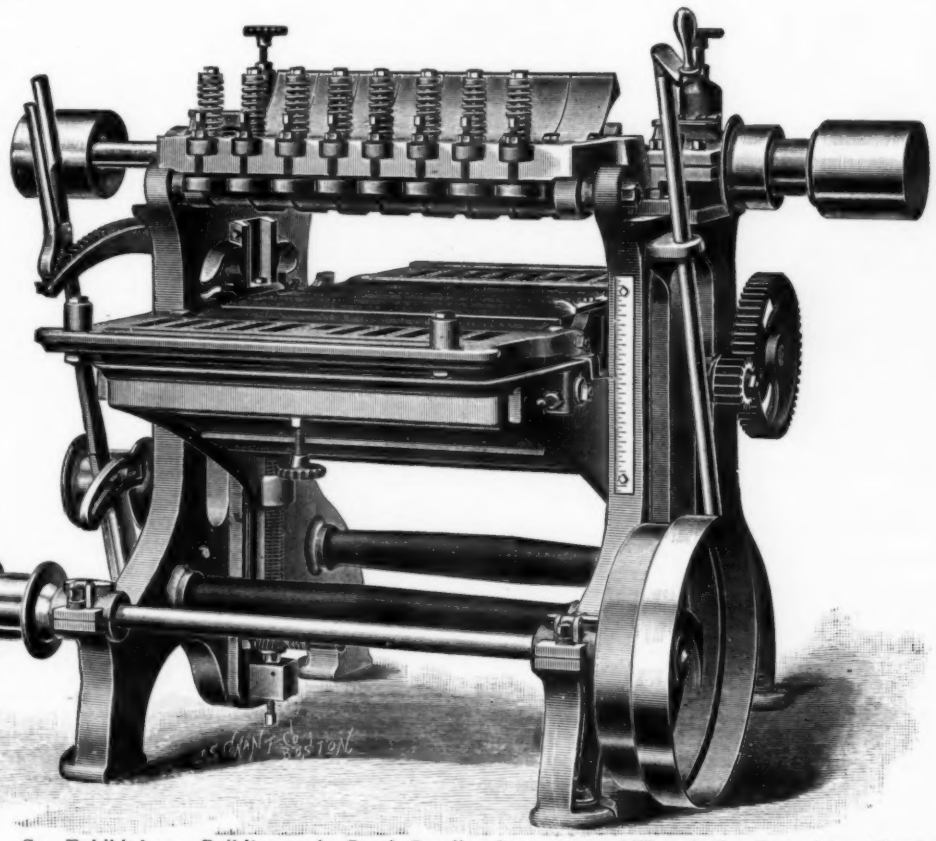

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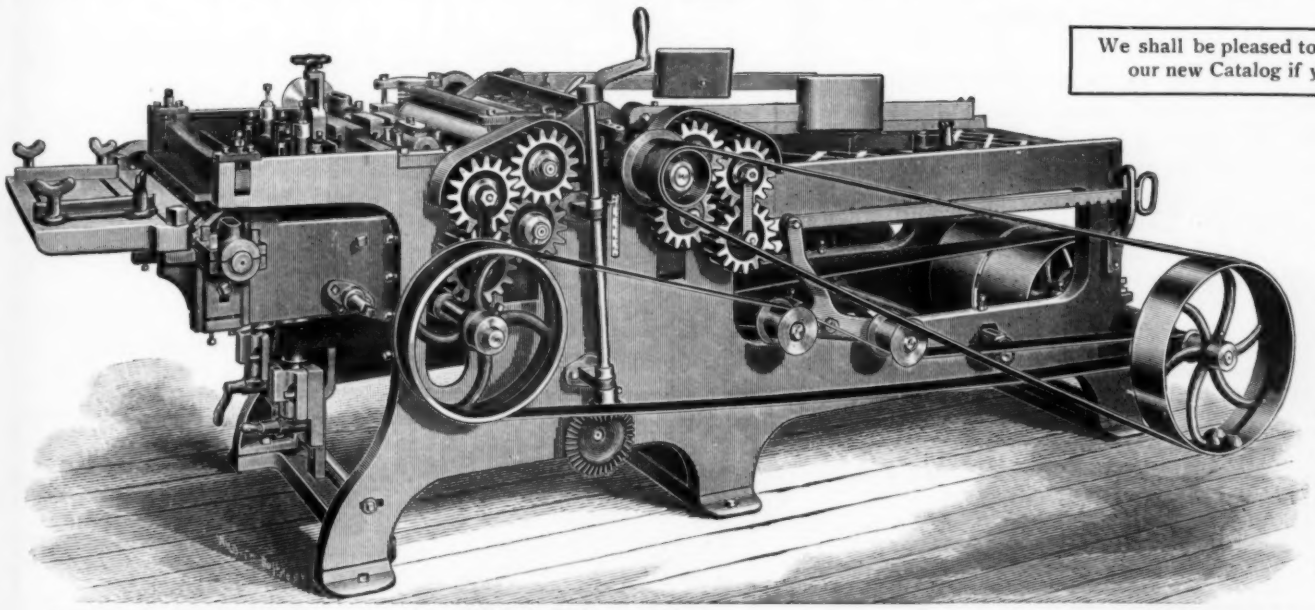

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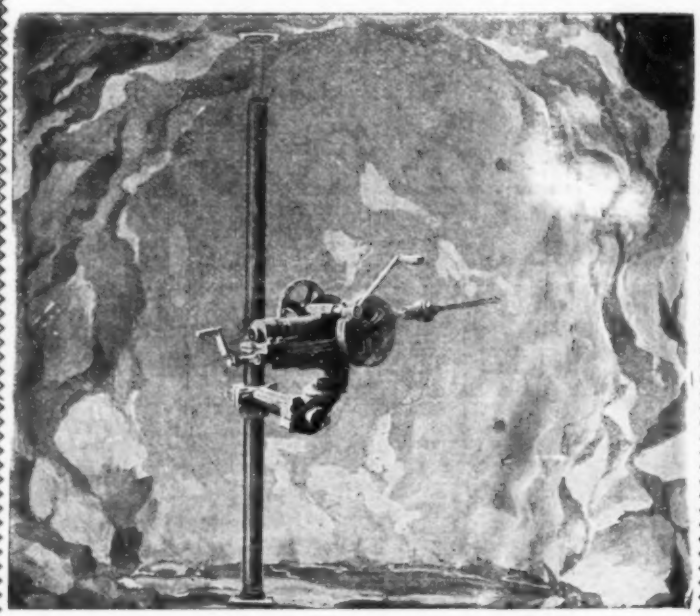

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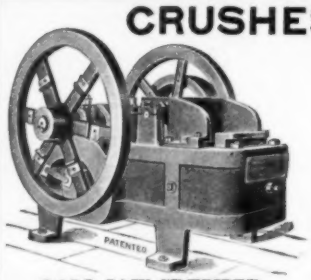

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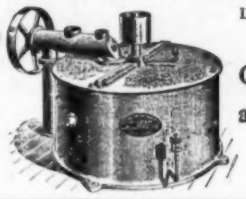

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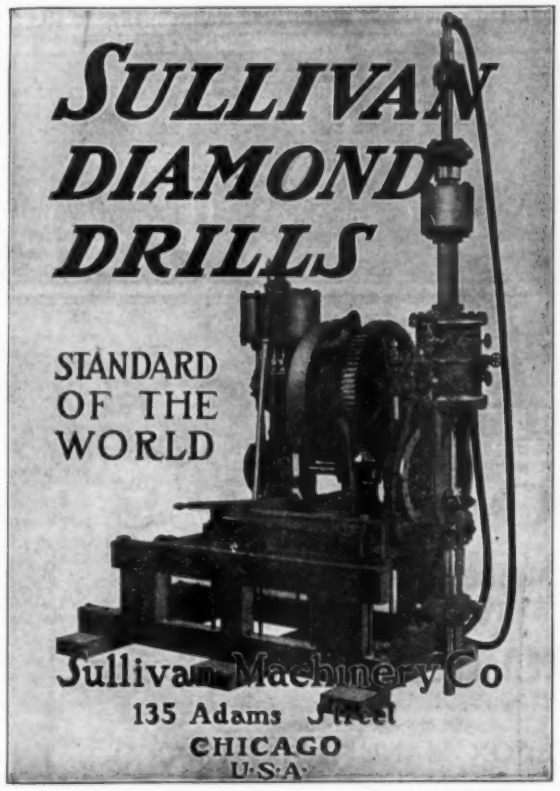

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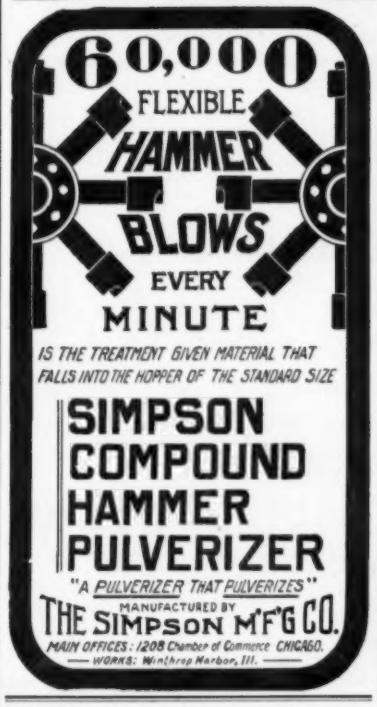

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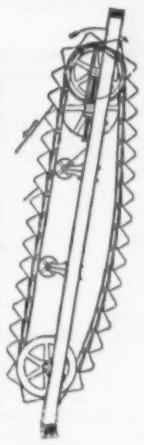

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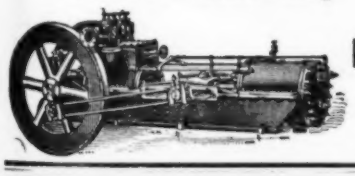

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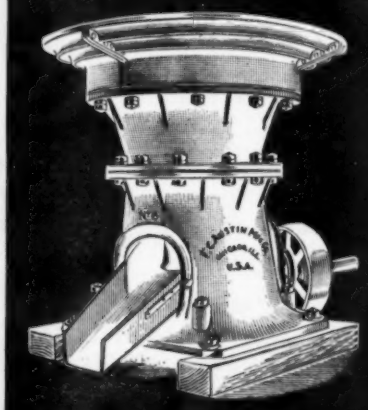

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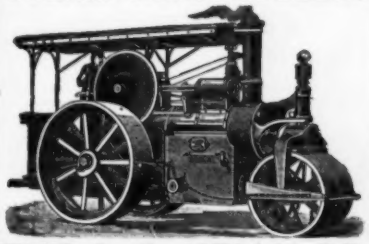

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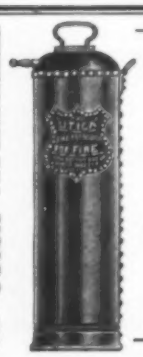

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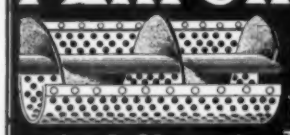

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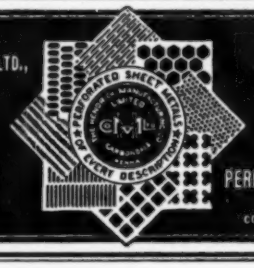

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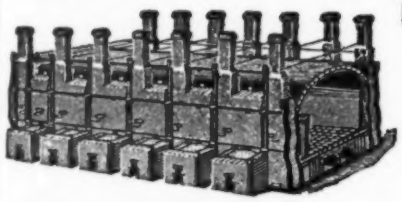

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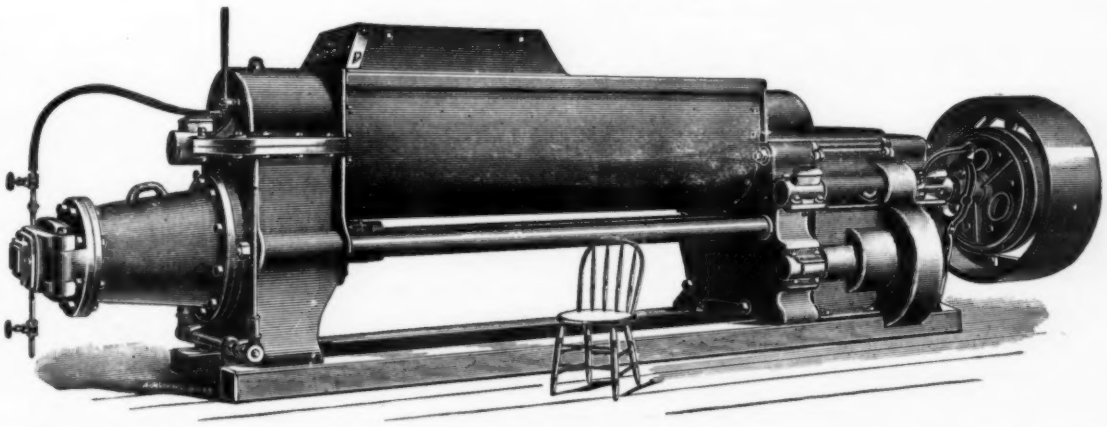

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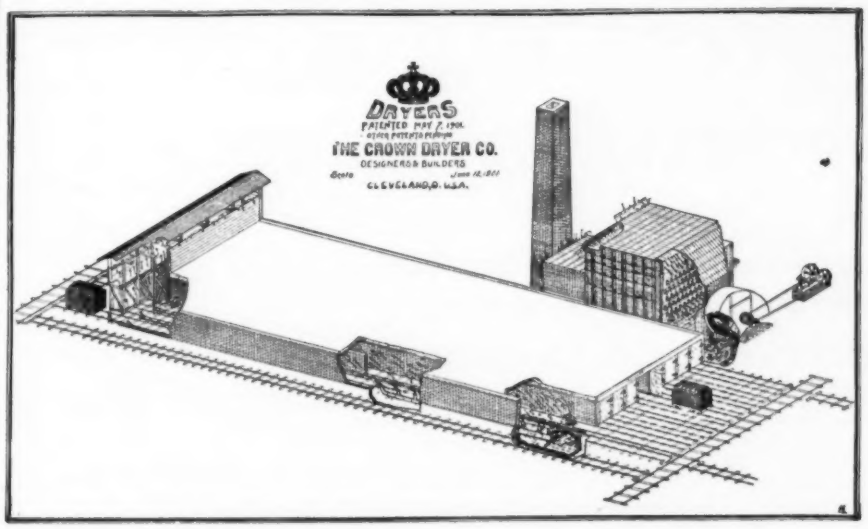

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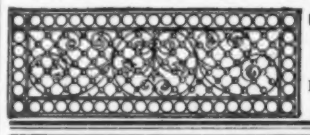

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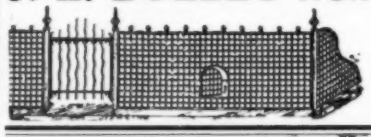

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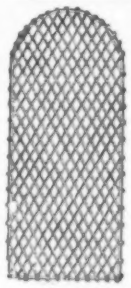

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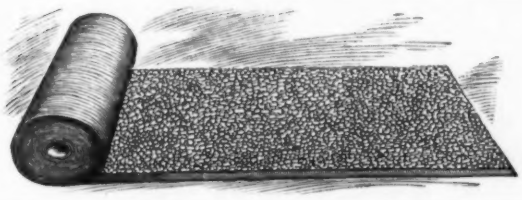

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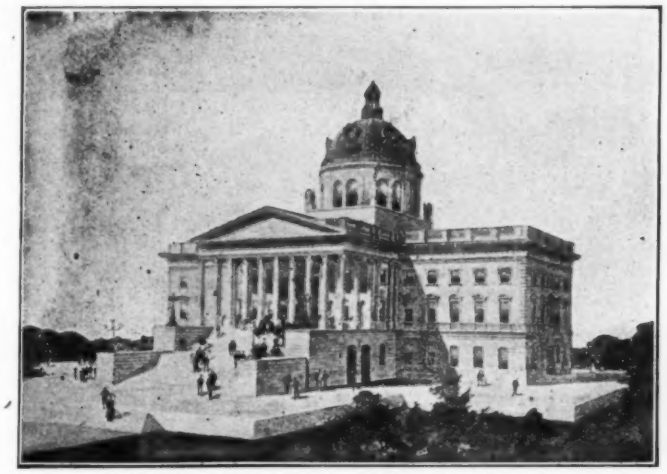

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For public buildings of every character where first-class Roofing is a consideration, our GALVANIZED
VICTOR SHINGLE
Is Unequaled.
Deeply Embossed.
Presents Attractive Appearance.
Telescope Side Lock.
Catalogue E more fully describes them.
MONTROSS METAL SHINGLE CO., Camden, N. J.

We might talk this page full—and we could only repeat what our little book "Concerning that Roof," says just as well, and it will cost you but a postal.

CORTRIGHT METAL ROOFING CO.,
50 N. 23d Street,
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PEERLESS
Ready Mixed Paint

is especially adapted for painting all forms of wood work exposed to the weather, as it fills the pores of the wood with the best wood preserver known:

"PURE OIL OF TAR,"

Which is composed largely of "Creosote." This oil being combined with pure oxides of IRON and LEAD, with sufficient dryer to insure proper working, produces the best paint on the market for **EXTERIOR WORK.**

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PINETOWN, N. C.

Some Competing Wag

took exception to the remark that we made in a previous advertisement inserted in the Manufacturers' Record that car after car loaded with Arrow Brand Asphalt Ready Roofing had left our works consigned to points in the South, and implied that we were not telling the truth. Well, we will show any bonafide purchaser of roofing where car after car of Arrow Brand Roofing has been used in the South.

It suits the Southern climate, and the sun does not dry the life out of it as it does tarred felts.

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NEW YORK.

NATIONAL ROOFING & SUPPLY CO.
LOUISVILLE, KY.
Gravel Roofers.
Cement and Asphalt Pavers.
Building Papers.
Two and Three-Ply Ready Roofing.

BINK'S DRY NON-FLAME PAINT.
THE STAR BRASS WORKS,
67-69 S. Canal Street, CHICAGO, ILL.
Send for Circulars and Prices.

SLATE { Roofing. Black Boards, &c., &c.

DON'T say Slate is too expensive until you ascertain what it can be *delivered* for *f. o. b.* at your *Station*. Advise us what you may be in *need* of and we will *quote* the very *lowest* prices. *Handmade Slaters' Tools, Nails, Felt and Cement* a specialty, and can be *shipped* with the Slate.

DAVID McKENNA, Slatington, Pa.

The Geo. A. Robinson Contracting Company.

Composition and Ready Roofing, etc.
Artificial Stone or any kinds of Paving, etc.

Give us a chance to submit you figures anywhere in this district, either large or small jobs.

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Prepared Gravel and Slag Roofing

As prepared and applied by our specifications, will give you a perfect roof covering for all your buildings. Compare our roofings with others.
Samples and Catalog for the asking.
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Made in All Colors.
Made to Endure.

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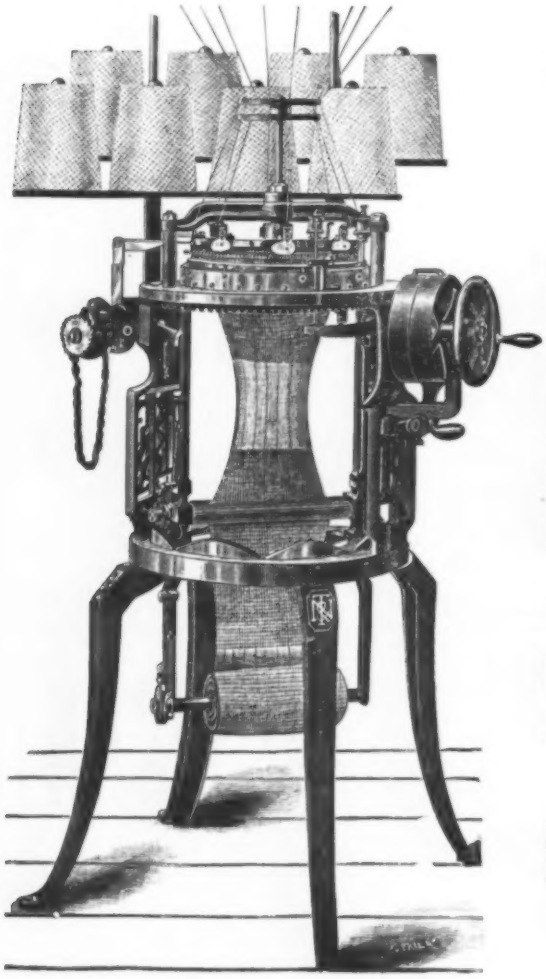

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Plain and Automatic.

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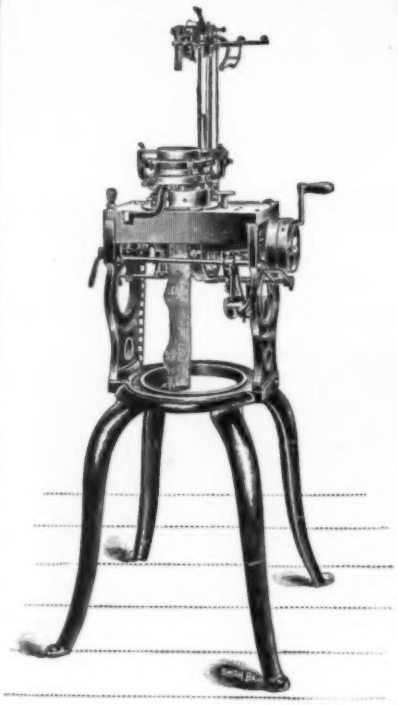

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Transfering by use of Point Rings.

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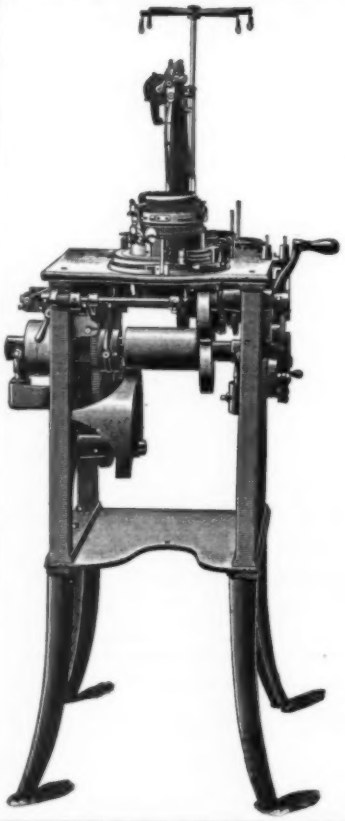

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We also manufacture LATCH NEEDLES of superior quality for all makes of machine.

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Everything needed for the Complete Equipment of COTTON MILLS to Manufacture
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BEST { MATERIAL / WORKMANSHIP / RESULTS

Are combined in the

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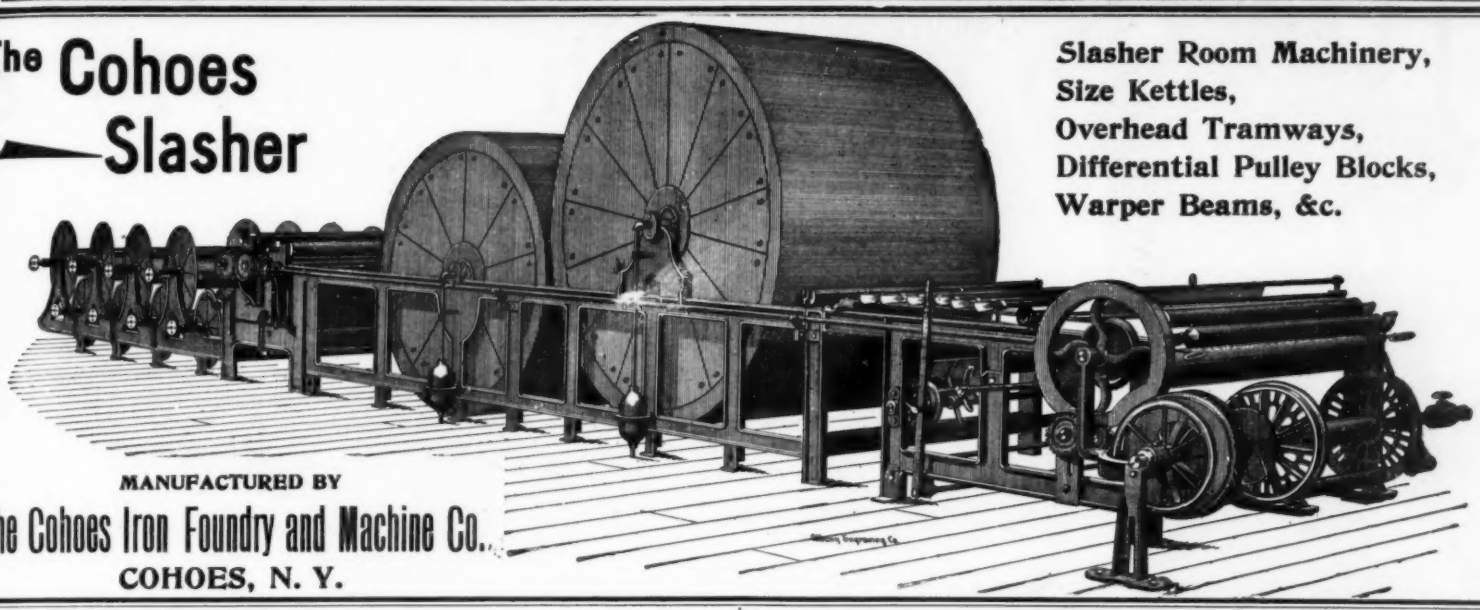

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Cotton Goods in the South.

The best manufacturers in the South are beginning to appreciate the advantages of making fine cotton goods. We have already made shipments of combing machinery to be used for equipments to make fine yarns. We have also equipped mills in the South with mules to make a hosiery yarn that is softer and more even than ring frames can make. It is all right for the new beginner to duplicate what some neighbor has done in making common yarns or common cloths. The man who has acquired better knowledge and skill however should utilize his capabilities in going into something that every new beginner can't compete with from the start. We make combers, mules and other machinery for the production of finer goods. Our cards are especially adopted to fine carding for finer goods. We make drawing, ring frames and looms.

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FLAT CUFF MACHINES. Single Stitch, Double Stitch and Patent Two-Thread Loopers.

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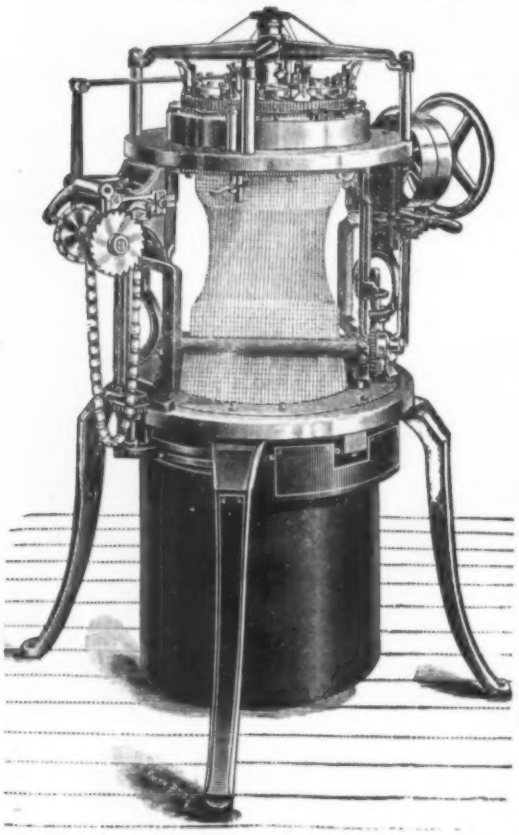
Rib Knitting Machinery,

AUTOMATIC AND PLAIN.



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ESTABLISHED REPUTATION FOR

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Steam Jacket Kettles,

Guaranteed to stand 150 pounds cold-water test.
Equal, if not superior, to any in the market.

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We Manufacture Everything Required for the Complete Equipment of Cotton Mills.

Plans and Estimates Furnished on Application. Correspondence Solicited.

A NEW HOPPER

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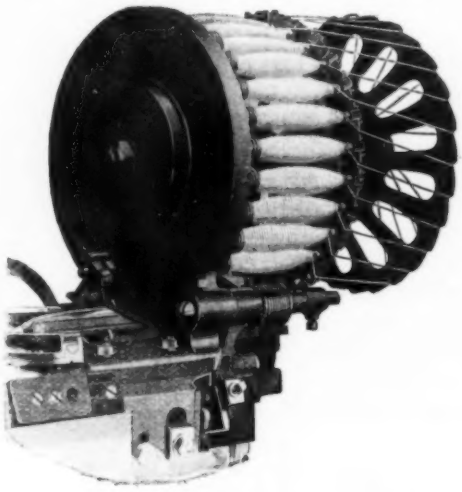

The Hopper makes the Loom. Note the Size and the Simplicity.

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Cop and Skein Winders

built upon the most improved plans, with bearings and spindle points hardened and ground. These

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are capable of transfering from Cop or Cone to the largest bobbin more yarn to the spindle than any other similar machine now on the market. Made with any number of spindles desired, above 24. We should like to send full information. Write us.

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We make and solicit your orders for

Circular Knitting Machinery

feeling sure of the ability of our machines to satisfy.

Samples and Details Upon Application.

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Manufacturers of

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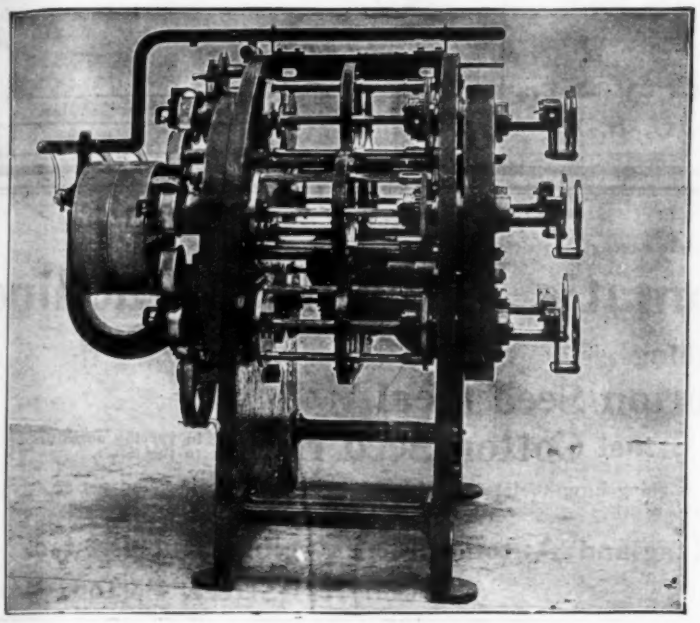
We Build The Best Types Of

Modern, High-Speed, Geared Machines



Which are adapted for making all kinds of

Cotton, Cable-Laid Twine, Cord and Rope.

The Haskell-Dawes Machines are built upon a NEW PRINCIPLE, whereby the MOST POSITIVE RESULTS ARE SECURED. They occupy LESS SPACE than the ordinary type of machines, require LESS RELATIVE POWER, and will turn out a MUCH LARGER PRODUCT of Twine and Rope.

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Works: Frankford Junction, Philadelphia.

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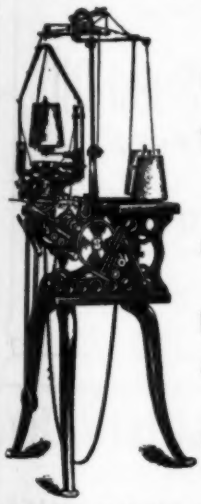

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Regular 7/8 Auto. FOR ALL CLASSES OF COTTON HOSE.

Special 3/4 Auto. FOR WOOL.

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Send Specifications.

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Our Mills have all the Latest Modern Improvements in Machinery, and produce the very best results. Also,

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For Bleacheries, Textile Mills, Sugar Houses, Paper Mills, and all other Industrial Uses.

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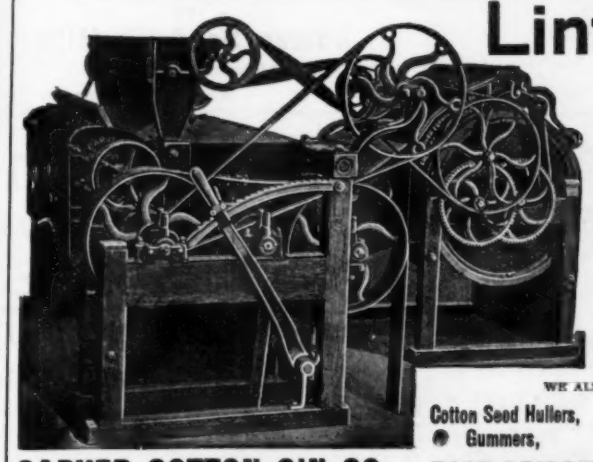

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Adjustable Seed Board.
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New Method Drive.
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Whole Saw Wood, Whole Saw Iron Cylinder.

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INSURES Perfect Separation of Solids From Liquids by Filtration.

Twenty-five years' practical experience enables us to build Filter Presses that are the Standard for Cotton Seed Oil, Sugar House, Abattoir Color and Paint, Varnish, Clay, Mining and all other Special Work.

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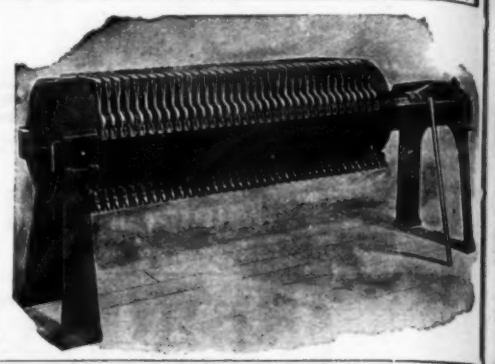

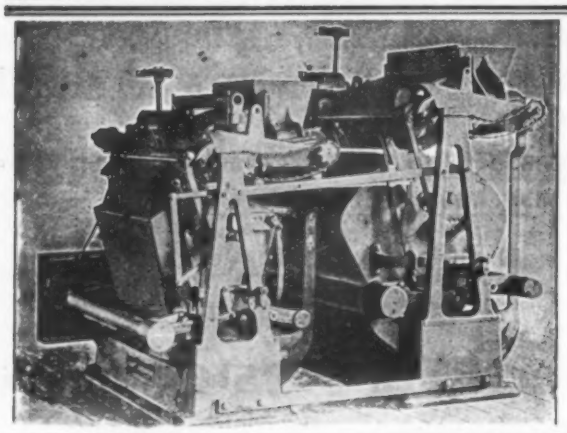

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Used for Weighing

Cotton Seed Meal
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The day for hand weighing in up-to-date mills is past. Use our machines and get an accurate knowledge of your day's work.

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(Not in any Combination or Trust.)

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Local Oil Mills and Ginneries Combined.

Cotton Oil & Fibre Co.

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Cotton Seed Cake, Hulls, Mixed Hulls, Linters, Etc.

Prime Cotton Seed Meal "Cofco" Brand.

Samples Free On Request. Net 100 lbs. Fully Decorticated.

Guaranteed Analysis:

Ammonia	Not Less Than	8.50	Per Cent.
Nitrogen	" "	"	7	"
Protein	" "	"	43	"
Crude Oil and Fat	" "	9 to 10	"

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Cotton-Seed Oil Mill Machinery and Complete Ginning Outfits, Eclipse Hullers and Carver Linters.

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HYDRAULIC MACHINERY
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Write for prices.

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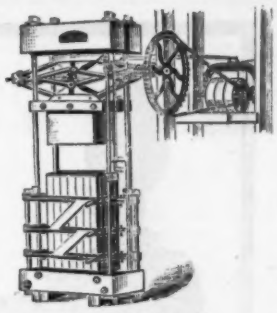
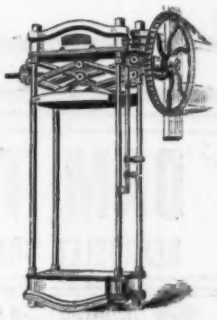
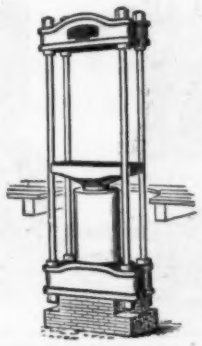


Knuckle-Joint
Cloth-Baling Yarn and Press



Knuckle-Joint
Cloth-Baling and Finishing Press.



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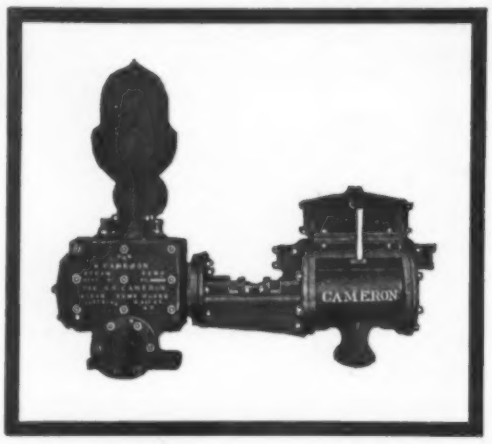

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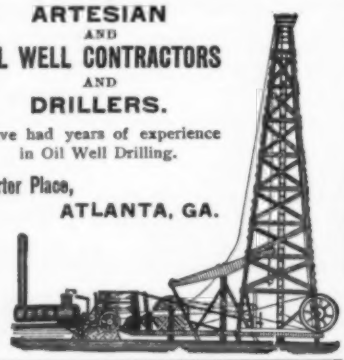

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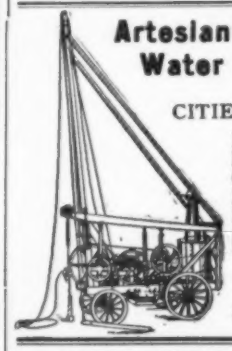

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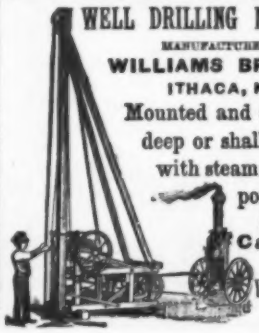

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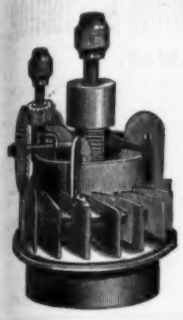

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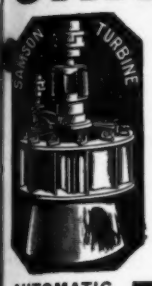

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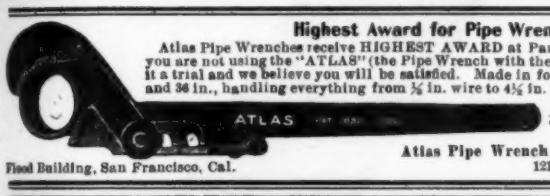

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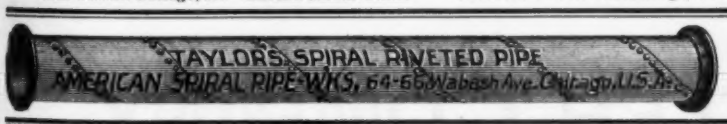

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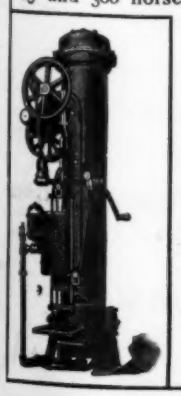

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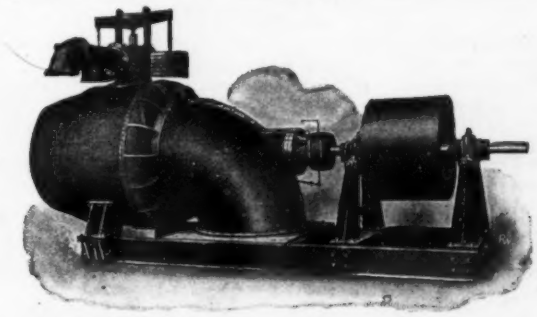

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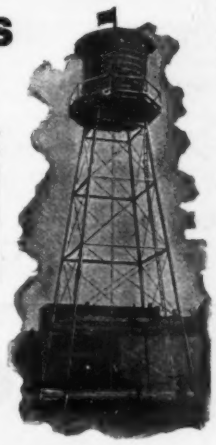

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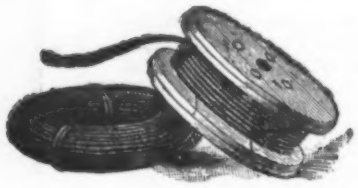

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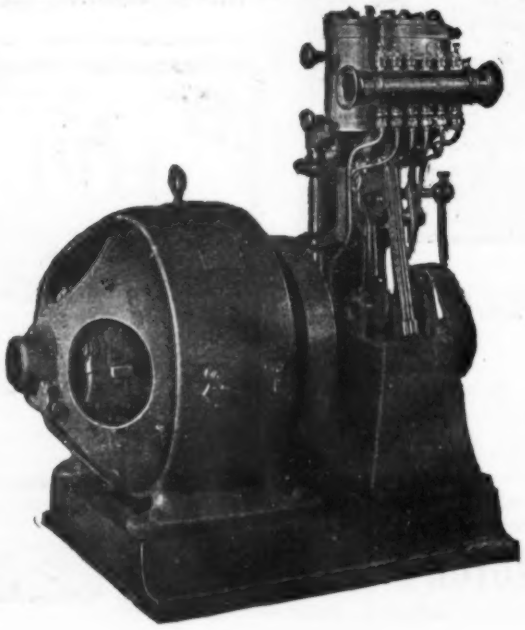

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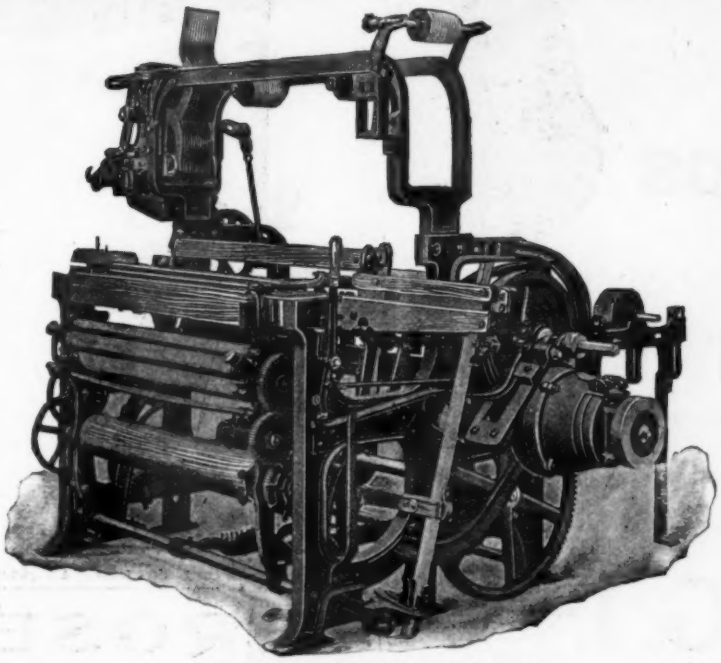

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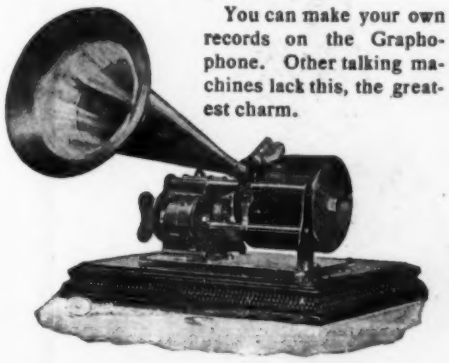

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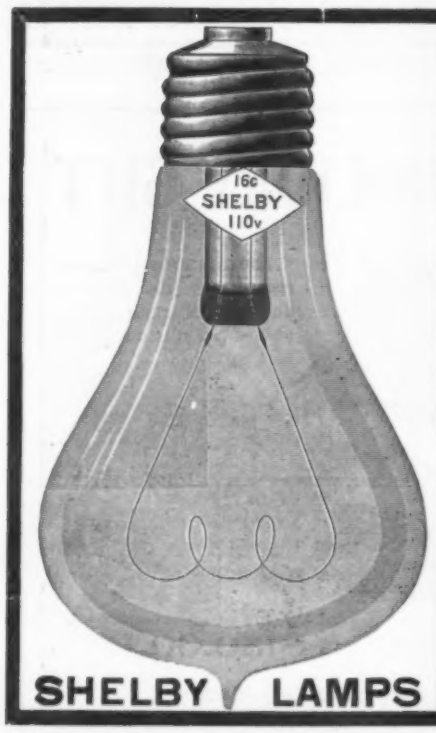

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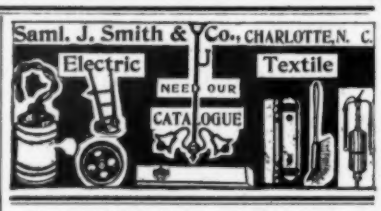

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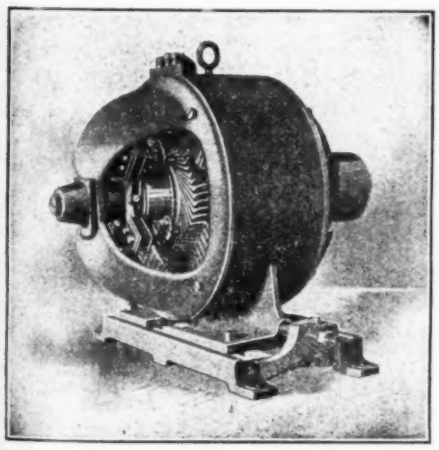

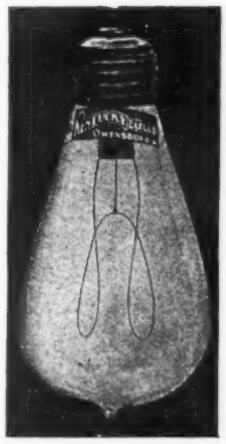

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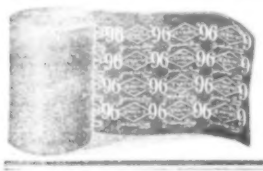

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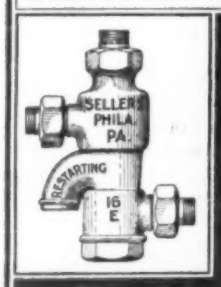

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